



Testimony
Hearing on Reforming the Corporate Average Fuel Economy (CAFE) standards
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By

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INTRODUCTION

Thank you Mr. Chairman and members of the Committee for the opportunity to testify today on behalf of Sierra Club's more than 700,000 members nationwide on the issue of automobile fuel economy standards.

It has been a little more than one year since I represented the Sierra Club at a hearing on solutions to global warming. Much has changed since this last testimony in support of raising Corporate Average Fuel Economy (CAFE) standards. The national debate on energy policy is now focused on energy security, and the issue of oil dependence is central to that debate. The tragedy of September 11 heightens the need to act now to raise fuel economy standards for cars, SUVs and other light trucks. The biggest single step the U.S. can take to save oil is to raise CAFE standards. Strong new standards will save millions of barrels of oil every day—more than we import from the Persian Gulf—and will keep billions of dollars in the economy as consumers save money at the pump. In addition, they will slash CO₂ emissions that cause global warming.

As this Committee develops new CAFE standards to be included in comprehensive energy legislation, it has the opportunity to ensure real oil savings for the nation. In determining appropriate new standards and possible reforms to the CAFE system, the Sierra Club urges the Senate to review the National Academy of Sciences CAFE Report issued on July 31, 2001. This Report says we can move forward to raise fuel economy and that the technologies already exist to meet new standards safely. In addition, the Committee should consider other studies on the issue, including the Union of Concerned Scientists' (UCS) report, "Drilling in Detroit," that look at a broader range of technologies for improving fuel economy. We can and must have new standards. The Sierra Club urges the Senate to ensure that new standards take full advantage of fuel-saving technologies in an appropriate timeframe.

ENERGY SECURITY: RAISING CAFE STANDARDS TO 40 MILES PER GALLON

The Sierra Club believes that raising CAFE standards is an essential part of a balanced and responsible energy plan. Cars and light trucks guzzle 8 million barrels of oil every day -- 40 percent of the oil used in the U.S. every day -- and emit 20 percent of U.S. CO₂ that causes global warming. The U.S. now imports 55% of the oil we use, a level projected to rise steeply.

The Sierra Club supports raising CAFE standards to 40 miles per gallon (mpg) over the next ten years for a unified fleet of cars and light trucks. This new standard is achievable with existing conventional technologies and will lead us toward oil savings that approach 4 million barrels of oil every day and reduce CO₂ by 600 million tons every year. The Union of Concerned Scientists' "Drilling in Detroit" report provides a blueprint for achieving a 40 mpg standard.

The fuel economy of cars and light trucks peaked in 1987 at 22.1 miles per gallon (mpg) but has dropped to 24 mpg – a 20-year low. Congress set the current 27.5 mpg standard, still in place for cars, in 1975 based on the technology outlook of the 70s. Automakers met the 27.5 mpg standard in the mid-1980s. The fuel economy standard for light trucks, 20.7 mpg, has stagnated for nearly 20 years. Light trucks, now 50% of the new vehicle market (up from 20% in 1975), are largely to blame for the decline in overall fuel economy. With the slide in fuel economy comes an increased demand for oil, more global warming pollution, and increased pressure to drill for oil in special places like the Arctic National Wildlife Refuge.

The U.S. has just three percent of the world's oil reserves yet consumes 25% of the world's oil. We cannot drill our way out of oil dependence, but we can go a long way toward oil independence by making cars and light trucks go further on a gallon of gas. Raising CAFE standards to 40 miles per gallon for cars and light trucks would save far more than the 2.5 million barrels of oil per day we now import from the Persian Gulf. It will also save far more than the estimated 6 months of oil in the Arctic National Wildlife Refuge – oil that would not add to U.S. supplies for 10 years. In contrast, the cumulative oil savings from phasing in a 40 mpg standard over the next 10 years would be nearly 3 billion barrels of oil. By 2012, the daily savings would near 2 million barrels per day, and approach 4 million barrels per day in 2020. If new cars and light trucks averaged 40 miles per gallon, we would save 1,507 gallons of gasoline per second.

Annual consumer savings from a 40 mpg standard would hit \$16 billion in 2012 and continue to rise as the efficiency of the fleet continued to improve. The cumulative savings over 10 years would be \$45 billion. Each dollar saved at the pump can be invested in the U.S. economy instead of spent on foreign oil. In 2000, Americans spent \$186 billion at the gas pump for 121 billion gallons of gasoline. Overall, the US sends \$200,000 overseas every minute to pay for oil products. Studies have consistently shown that re-investing the billions of dollars from oil savings will generate jobs economy-wide, including 40,000 new jobs in the auto industry alone.

As outlined in "Drilling Under Detroit," conventional technologies now exist to achieve a 40 mpg standard over 10 years. A combination of better engines, transmissions, aerodynamics, appropriate weight reductions and other technologies can be used to improve the fuel economy of all vehicles, from cars to the largest SUVs.

This is the first time since 1990 that this Committee and the Senate have looked at raising CAFE standards. In 1990 the Senate Commerce Committee adopted and sent to the floor a bill that would have raised the CAFE standard for cars to 40 mpg and for light trucks to 34 by last year. This bill gained the support of 57 Senators. Had these standards passed we would be saving more than a million barrels every day on the way to saving 3 million barrels a day and the cumulative savings over the past ten years would have been 1.2 billion barrels.

This Committee and the Senate should act now to raise fuel economy over the next 10 years to 40 mpg -- a level that reflects the technologies now available. The country cannot afford another 10 years of backsliding on fuel economy.

THE NATIONAL ACADEMY OF SCIENCES REPORT ON FUEL ECONOMY STANDARDS

On July 31, 2001, the National Academy of Sciences (NAS) released its report, "Effectiveness and Impact of Corporate Average Fuel Economy (CAFE) Standards" [Report]. According to the Report, CAFE standards save nearly 3 million barrels of oil every day and automakers can use technologies to significantly improve fuel economy over the next 10-15 years to generate greater savings.

The 2001 report is the second NAS report on fuel economy in less than 10 years. The 1992 NAS report on CAFE standards, "Automotive Fuel Economy: How Far Should we Go?" focused on identifying achievable levels of fuel economy over the course of the 1990s while meeting existing and pending environmental and safety standards. The 1992 report provided ranges of fuel economy improvements the auto industry could achieve between 1996-2006 from a

low range of 30-39 mpg for cars to 26-29 mpg for light trucks and a high range of 33-44 mpg for cars and 29-32 mpg for light trucks. The 1992 Report was closely followed by a six year freeze on new fuel economy standards imposed through the Transportation Appropriations bills.

Instead of being well down the road to higher fuel economy for America's cars and light trucks, automakers produced a fleet of new vehicles in 2001 with an average fuel economy of 24 mpg. This is a twenty-year low, according to the Light-Duty Automotive Technology and Fuel Economy Trends Report from 2001.

In light of the debate on national energy security and oil dependence, the 2001 Report must serve as a platform for action on fuel economy.

The 2001 NAS CAFE Report

The NAS Report concludes that CAFE standards save oil. While the auto industry continues to argue that CAFE standards have not worked, the Report finds that the standards save 2.8 million barrels per day, or 43 billion gallons, of oil every year. The Report also identifies the direct connection between oil consumption in cars and light trucks and global warming. The Report's conclusion is clear: reducing both oil consumption and pollution are key reasons to move forward with new standards. The Sierra Club encourages the Committee to consider the NAS study, but also look for guidance from other studies that look at a broader range of strategies and timeframe.

Technologies for Achieving Higher Fuel Economy

The debate about higher CAFE standards has always hinged on quantifying the ability of automakers to redesign their vehicles with improved technology. The question is one of how much improvement can be made in what kind of timeframe. The 2001 NAS Committee's approach to fuel economy was to identify ranges of fuel economy improvements for both cars and trucks while holding acceleration, performance, size, in terms of functional capacity, accessories, amenities, the mix of vehicle types, makes, and models sold constant. The Report focused on a limited set of primarily drive train related technologies. The Report concludes that fuel economy can be safely improved. The Path 2, or mid-range projection in the NAS report is consistent with a 40 mpg standard.

The NAS Report, however, must be viewed in context of other recent studies on the potential for fuel economy improvements that can be made in all classes of vehicles, affordably while improving safety, and retaining utility and performance. In addition to the UCS study, the NAS Report refers to the DeCicco-An-Ross study, prepared for the Energy Foundation and published by American Council for an Energy Efficient Economy, and the Massachusetts Institute of Technology study by Weiss-Haywood-Drake et al. These deserve particular attention for assessing how much car and light truck fuel economy can be improved by looking at a fuller range of technologies. Even Automotive News has provided a view of the technologies automakers can employ to improve fuel economy over the next 5 years (Attachment).

Each of these studies comes to nearly identical conclusions on the ability of the auto industry to redesign cars and light trucks using improved conventional technology to achieve a 40 mpg combined standard. For the \$1000-\$1500 investment – the average cost across all vehicle types—in technology, consumers would save several times that at the gas pump. This level of fuel economy improvement does not include the greater efficiency boost that will come from the use of hybrid gasoline-electric vehicles like the Toyota Prius and Honda Insight now selling in the U.S.

Similar to the NAS Report, the above studies looked at technologies that include: high-efficiency, lightweight, low-friction, precision-controlled gasoline engines; improved transmissions, such as continuous variable timing, depending on vehicle type; integrated starter-generator (ISG) with 42-volt system; and aerodynamic streamlining, reduced tire rolling resistance, and accessory improvements.

These other studies, however, show the fuel economy benefits of mass reduction, particularly from the heavier vehicles in the fleet. Using advanced high-strength lightweight materials and other strategies these vehicles can safely shed weight. Further, improvements in the design of SUVs and other light trucks to make them more compatible with cars will improve overall traffic safety. The NAS Report recognized the benefits of reducing weight, particularly in SUVs, but did not incorporate this strategy in setting fuel economy ranges.

Timeframe for Improving Fuel Economy

New fuel economy standards must be phased in over the next ten years to ensure progress and begin oil savings in the near-term. While the NAS Report identifies ranges of fuel economy improvements that can be achieved in 10-15 years, it fails to recognize that the automakers can improve fuel economy in the short term. The auto industry itself has pledged to make short-term changes. Ford led the way with its pledge to improve the fuel economy of their SUVs by 25% between 2000 and 2005. General Motors and DaimlerChrysler have also pledged to make fuel economy gains by 2005. While each company's commitment is slightly different, their pledges show that we do not need to wait 10-15 years to see fuel economy rise.

A ramp up in fuel economy standards is essential to steering the auto industry in the direction of incorporating fuel saving technologies into their vehicles. If the automakers are not directed to move forward in the short term, they will continue to produce gas-guzzlers, locking in high oil demand, and fail to plan ahead for changes.

What is too often lost in this debate is that automakers can and do make changes to their vehicles in short timeframes. For competitive reasons automakers are continuously updating their designs. Every year automakers introduce a host of new products and improvements. An automaker whose market share slips responds with ambitious schedules of redesign and new product announcements. There is no question about the auto industry's capacity and skill to make changes. New fuel economy standards will determine how much of this capacity and skill are applied to reduce oil consumption, save consumers money at the pump, and cut pollution.

Currently, automakers tout changes such as more horsepower, extra seating, and extra comforts. Since CAFE standards for cars have not changed in more than a decade and the light truck standards have stagnated for nearly 20 years, automakers have made substantial changes each year in vehicle attributes other than fuel economy, or eat away possible fuel economy gains with more power. There is no reason why we couldn't see year-to-year improvements to fuel economy under regulatory guidance, as under the original law.

After Congress passed the CAFE law in 1975, new passenger car fuel economy nearly doubled and the combined car plus light truck fleet saw an 82% improvement overall. That corresponded to an average 7.5% annual rate of increase (from 1974-85). Department of Energy analysis shows that 85% of that improvement was technology based. So taking 85% of the 7.5% annual rate indicates that the industry achieved an average 6.4% rate of technical efficiency improvement. During this same period the industry also improved safety through better body structures and other measures and phased in tighter emissions standards as well. Affordability was not compromised and sales started to rebound as the country climbed out of the recession and stagflation that was caused in large measure by the oil shocks.

A new fuel economy goal of 40 mpg over ten years can be achieved within the industry's normal product upgrade cycles. All that is needed is the guidance to begin applying technology to make steady forward progress. Contrary to industry claims that they cannot make any changes for years to come, minor modifications to existing product plans can be made with the 18 months of lead time required for rules under existing CAFE law. The fuel economy improvements that the industry achieved in the late 1970s when the CAFE law first came into play show that they can

act if they are required to do so. New standards will ensure that the industry moves out of the 1980s and into the 21st century.

NAS Recommendations for Reforming the CAFE System

Before the Senate engages in a debate over changing the current CAFE system, it is essential to recognize that CAFE standards have worked. They are the most successful energy savings measure Congress has ever adopted, saving some 3 million barrels of oil every day. And, because CAFE standards save oil they are an essential element in a strategy to reduce U.S. global warming pollution. The current standards keep approximately 600 million tons of carbon dioxide, the primary global warming pollutant, out of the atmosphere.

As the NAS Report confirms, we can effectively raise standards under the current system. According to the Report, the current system yields “much certainty” in the magnitude of fuel economy increases and therefore the oil savings and pollution reductions that follow. The Sierra Club recognizes that the current system, however, is not perfect. The NAS makes several recommendations on reforming CAFE. The Sierra Club would support the following changes to the current system:

Closing the Light Truck Loophole: The Sierra Club strongly supports a reform to the CAFE law that would close the light truck loophole. SUVs, minivans and pickup trucks are all considered light trucks. The NAS Report finds that closing the light truck loophole would provide more certainty of the magnitude of oil savings from the fuel economy increase than even the current system provides. The NAS found that “the car/truck distinction has been stretched well beyond the original purpose.” The “poster” vehicle to make this case is the PT Cruiser. For fuel economy purposes this 4-passenger vehicle that cannot tow a trailer is a light truck (EPA considers it a car for emissions purposes). Automakers are producing vehicles that are used as passenger cars, but escape the more stringent car standard. Cars and light trucks should be combined into a single fleet of passenger vehicles.

The fuel economy standard for light trucks, 20.7 mpg, has stagnated for nearly 20 years. The market share of these vehicles, however, has jumped from 20% in the 1970s to nearly 50% of new vehicle sales in 2000. As a result, these vehicles are driving demand for oil to an all time high, and driving up emissions of global warming pollution. As of last year, the explosive growth in light truck sales had already brought the average fuel economy of all the nation’s new vehicles to its lowest point since 1980, according to EPA’s 1999 Fuel Economy Trends Report. Light trucks alone spew more than half a billion tons of CO₂ into the atmosphere each year.

The Sierra Club has documented the importance of addressing the issue of SUV fuel economy in a report entitled “Driving up the Heat: SUVs and Global Warming.” (Attachment 2) In this report, we educate the public about how much energy is being wasted by today’s SUVs. For example, switching from an average new car to a 13 mpg SUV wastes more energy than leaving a refrigerator door open for six years. Further, while a 13-mile per gallon SUV emits more than 130 tons of carbon dioxide over its lifetime, the average new car emits 74 tons. A new Honda Insight will emit only 27 tons.

The technology is available to ensure that tomorrow’s SUVs are more efficient, and therefore pollute less. According to the Union of Concerned Scientists, the best-selling Ford Explorer, which gets only 19 mpg, could be a 34 mpg vehicle by putting today’s technology to work. The cost of the technology is made back by the consumer in just a few years from savings at the gas pump.

The Sierra Club applauds Senators Feinstein and Snowe for taking their leadership in introducing S. 804, The Automobile Fuel Economy Act of 2001. This bill would close the light truck loophole by requiring light trucks to meet the 27.5 mpg current passenger car standard by 2007 and then combine the passenger car and light truck fleets. S. 804 also takes the additional step of bringing the heaviest SUVs, those weighing between 8,500 and 10,000 pounds,

into the CAFE program. As the program is now administered, CAFE standards only apply to vehicles up to 8,500 pounds. This weight cut-off has encouraged manufacturers to increase the weight of their largest SUVs in order to remove them from the CAFE system. Some Chevy Suburbans and the Ford Excursion are examples of vehicles sold as passenger cars that are exempt from CAFE standards. S. 804 is a critical first step in moving forward with new fuel economy standards.

Reforming the Gas Guzzler Tax: The Sierra Club agrees with the NAS Report's criticism of the Gas Guzzler Tax that it does not include light trucks. The Sierra Club does not, however, agree with the remedy in the Report of reducing or eliminating the Tax. The Gas Guzzler Tax applies to cars with a fuel economy below 22.5 mpg. The Tax appears on the stickers of new cars and serves to highlight that a vehicle's fuel economy is substantially lower than the 27.5 mpg average. Because the Tax does not apply to light trucks, the Report concludes that this creates an incentive to classify vehicles as light trucks that might otherwise be subject to the tax as cars. To remedy this problem, the Gas Guzzler Tax should be applied to light trucks. A similar structure for light trucks would add a cost to light trucks associated with poor fuel economy and create an incentive for manufacturers to improve light truck fuel economy. The Tax could also be applied to a combined fleet of cars and light trucks.

Ending the Dual Fuel Vehicle Program: The Sierra Club strongly supports ending the dual fuel vehicle program. This program rewards automakers with credits toward meeting CAFE standards for producing vehicles that can, but in fact rarely do, run on alternative fuel. While this program was intended to increase use of alternative fuels by cars and light trucks, the auto industry has turned this program into an enormous loophole, exploiting it to help them meet CAFE standards. Under the existing law, automakers can now use a 1.2 mpg credit toward meeting CAFE standards and the program can be extended at a lower 0.9 mpg level after 2004. The NAS Report recognizes that this program does not generate benefits and should be eliminated.

The NAS points to the Energy Information Administration analysis, which shows that less than 1 percent of the fuel used in these vehicles is ethanol. Out of the 176,000 gas stations across the nation, only 101 offer the alternative fuel. Despite this fact, manufacturers are getting much needed help in meeting the standards. Currently, Ford Motor Company applies a 0.7 mpg credit toward meeting the 20.7 mpg standard for light trucks and DaimlerChrysler uses a .95 mpg credit. General Motors now uses the least amount of credits, .35 mpg, but is ramping up production of dual-fuel Yukons, Tahoes and Suburbans – vehicles that will drive up demand for gasoline.

A Department of Transportation (DOT) analysis, as reported in the New York Times on June 21, 2001, shows that the dual-fuel vehicle program actually increases gasoline consumption. According to the DOT report, the program increased gasoline consumption by 473 million gallons in 2000 because manufacturers can sell more gas-guzzlers. The Report is currently at DOT awaiting final decision on extending the program. Continuing the program will further increase consumption and pollution. This program should be phased-out.

Feebates: The Sierra Club would support a feebate system implemented as a compliment to the current CAFE system. Structured properly, a feebate system would provide consumers with incentives to buy more efficient vehicles while costing consumers for buying less efficient vehicles. This would be a revenue neutral program.

Truth in Testing: The Report does not recommend reforming the system now in place for testing vehicles to determine each vehicle's fuel economy for CAFE purposes. The Sierra Club would strongly support this step.

Under the current testing program, vehicles are given a fuel economy value that is 15-20% above their real world performance. These inflated values are what the Department of Transportation uses to determine the average fuel economy of each manufacturer's fleet and whether that manufacturer is meeting, exceeding or below the 27.5 mpg standard for cars or the 20.7 mpg standard for light trucks. According to the DOT, the average fuel economy of new cars and light trucks sold in 2000 was 24 mpg, but in fact it is about 15-20 percent below that. Testing reform would

require manufacturers to actually meet the standards now in place. Even this modest step would yield oil savings and pollution reductions.

The Sierra Club opposes the following changes to the fuel economy system:

Tradable Fuel Economy Credits: The Sierra Club would strongly oppose a system that would allow manufacturers to trade fuel economy credits. Even the NAS Report finds that this system would provide less certainty of fuel economy increases than the current system. The trading program suggested in the Report recommends a “safety valve” if the cost of fuel economy credits were to rise above a pre-determined level. This type of system would ensure manufacturers that the costs of non-compliance would be limited by the availability of credits from the government. This would weaken the system.

The automakers have proven adept at gaming the current credit program under which a manufacturer essentially trades credits with itself to meet the current standards. Automakers can apply credits from future years to meet the standard in any given year, or borrow from a past year if they exceeded the standard. Despite years of not meeting the standards, as reported in both *BusinessWeek* and *The Detroit News* (4), automakers have not been fined under the CAFE law. The credit system has become a smokescreen which the industry successfully exploits and hides behind. Expanding it will provide more opportunities for gaming and deception.

Under a trading regime the benefits of oil savings and pollution reductions afforded by the fuel economy leader (i.e. Honda) would be lost because those credits would be sold to a fuel economy laggard.

The Report’s support for a CAFE trading scheme is in part based on the panel’s belief that the trading program now in place to reduce sulfur emissions from power plants has been “highly successful.” Under the sulfur trading scheme, however, little of the reductions are attributable to trading but rather resulted from falling rail prices to bring low-sulfur coal to power plants. With the technologies now available to all manufacturers to cost-effectively meet higher standards, a trading system would not provide the certainty the current system provides.

Attribute-Based Targets: The Sierra Club would oppose a reform that would base fuel economy standards on vehicle weight or other attributes. The Report describes a system in which vehicles less than a selected weight, such as 4,000 pounds, would be subject to a fuel economy target determined for by weight. Vehicles above that weight would be required to meet a set standard similar to the current program.

Under a weight-based program, manufacturers would be given an incentive to add enough weight to a vehicle to move it into the heavier class where it might meet or exceed the standard set for that weight without having to apply fuel saving technologies.

The Dingell-Taubin Provision in HR 4

The House of Representatives took up the issue of fuel economy as part of their energy bill. The House approach to updating fuel economy standards is severely flawed. The bill the House passed on August 2, 2001, H.R. 4, contains a provision which Representatives Dingell and Taubin crafted. The Dingell-Taubin provision directs the Department of Transportation to set new standards for light trucks -- SUVs, minivans and pickup trucks—at a level that will save at least 5 billion gallons of gasoline between model years 2004 and 2010. Five billion gallons of oil amounts to a savings of less than one day’s worth of oil per year and can be achieved by increasing light truck fuel economy by less than 1 mpg. The *Automotive News* described the Dingell-Taubin provision as a “smokescreen.”

The Dingell-Taubin provision in H.R. 4 also extends the dual-fuel vehicle credit program at the 1.2 mpg level, instead of the 0.9

mpg level that the program could be extended at under existing law. Because of the impact of the extended dual-fuel vehicle program in H.R. 4 it is questionable whether the House provision would actually yield any oil savings.

The Dingell-Tauzin provision could also be construed to weaken the current CAFE law by focusing on achieving a minimal oil savings rather than meeting the four requirements for new standards contained in the law: technological feasibility, cost effectiveness, other standards, and the need of the nation to conserve oil.

The Senate should reject the House approach. But, the Senate must factor it into the Senate's approach to updating fuel economy standards. Any Senate action on fuel economy must take into account the weakness of the House provision as well as the fact that a Senate provision will be conferenced with the House and runs the risk of being weakened.

FUEL ECONOMY AND SAFETY

Fuel economy can be increased safely while continuing to provide consumers with a full range of vehicles. The auto industry met existing CAFE requirements while providing consumers with a full range of cars and light trucks. In fact, when Congress passed the CAFE law, America had the industrialized world's least efficient fleet of vehicles. The CAFE law spurred the development of technology and improved the competitiveness of our auto industry. Eighty-five percent of efficiency improvements came from technologies such as more efficient engines and transmissions, and better aerodynamics.

History shows that the rate of traffic fatalities decreased by 50 percent over the same time that fuel economy doubled under the existing standards. Yet, the auto industry has consistently opposed the CAFE law using a flawed size/safety argument. In 1974, Helen Petruskas, a Ford representative, argued before Congress that CAFE would result in a "product line consisting of either all sub-Pinto-sized vehicles or some mix of vehicles ranging from a sub-sub-compact to perhaps a Maverick." Of course, this dire prediction proved to be untrue. The NAS report concludes that "CAFE regulations have not impeded the implementation of safety regulations, and safety regulations have not prevented manufacturers from achieving their CAFE requirements." (p. 2-16).

The Sierra Club agrees with the recent NAS Report that we can move forward to safely achieve fuel economy improvements, however, the Sierra Club strongly disagrees with the Report's conclusions about the safety impact of the current standards. The August 2000 Government Accounting Office report, "Automobile Fuel Economy: Potential Effects of Increasing Corporate Average Fuel Economy Standards," came to a similar conclusion about moving forward safely. The Government Accounting Office report notes that safety experts and automakers agree that "as long as there is sufficient lead time to meet higher CAFE standards, auto manufacturers could use fuel-saving technologies (such as continuously variable transmissions or lean burn engines) instead of simply building smaller, lighter cars. . . ." David Greene and Maryann Keller's analysis (included as the dissent to the NAS Report) of the safety issue reveals that conclusions regarding the relationship of fuel economy and highway safety looking back over time are flawed.

In the safety debate, it is important to understand that design, not size alone determines safety. Many smaller vehicles outperform many larger cars and SUVs, proving that automakers make safe and unsafe cars of all sizes. Small cars are excelling in crash tests. The 2-Door Honda Civic scores five stars on each element of the government's crash tests. The car weighs 2,502 pounds. The Volkswagen Beetle also performed extremely well in government and Insurance Institute of Highway Safety tests. In a standard head-on barrier crash test, the driver of a 1997 Saturn subcompact will fare better than the driver in a 1997 Ford Expedition. In addition, SUVs perform poorly in rollover tests, many scoring only two stars.

The fact that each of the Big 3 has pledged to make fuel economy improvements in the light truck sector between 2000 and 2005, and that GM have pledged to improve SUV fuel economy by 25% over 5 years, is evidence that they can move forward safely. These pledges were not simply to downweight their SUVs to achieve fuel economy gains, although in the case of SUVs, lighter vehicles would help to restore some balance to the fleet.

Research by both the Center for Auto Safety on cars, and by the Union of Concerned Scientists on SUVs, demonstrates that higher fuel economy standards can be achieved using existing technologies, while also reducing occupant deaths and injuries without altering the vehicle mix. The Union of Concerned Scientists' "Drilling in Detroit," fully analyzes the fuel economy and safety connection and concludes that the standards have not and do not impinge on safety. Cost-effective technologies such as improved engines and transmissions and new materials are the keys to achieving higher fuel economy in both cars and light trucks. Appropriate weight-reductions, focused on the heaviest light trucks, will further improve vehicle safety. These technologies will also help the American automotive industry face an increasingly competitive future. Further, roof crush and rollover standards and improving car/truck crash compatibility will improve vehicle safety.

The current system of separate standards for cars and trucks, which has allowed manufacturers to move heavily into SUV production, compromises traffic safety. Light trucks pose safety dangers to their owners and occupants. SUVs are four times more likely to roll over in an accident. Rollovers account for 62% of SUV deaths, but only 22% in cars. Yet automakers fought new standards protecting occupants in rollover accidents. According to a study by the National Crash Analysis Center, an organization funded by both the government and the auto industry, occupants of an SUV are just as likely as occupants of a car to die once the vehicle is involved in an accident. This is in part because of their higher rollover rates. National Highway Traffic Safety Administration (NHTSA) tests announced in July 1999, as reported in the New York Times (July 15, 1999) showed that the rollover issue is a major problem for light trucks:

"Because it is taller, heavier and more rigid, an S.U.V. or a pickup is more than twice as likely as a car to kill the driver of the other vehicle in a collision. Yet partly because these so-called light trucks roll over so often, their occupants have roughly the same chance as car occupants of dying in a crash." Keith Bradsher, The New York Times, "Light Trucks Prone to Tip, Safety Tests Find," July 15, 1999.

Light trucks, particularly heavy SUVs and pickups, are fundamentally incompatible with cars on the road. According to the NHTSA, collisions between cars and light trucks account for more than half of all fatalities in crashes between light duty vehicles. Nearly 60% of all fatalities in light vehicle side impacts occur when the striking vehicle is a light truck. SUVs are nearly three times as likely to kill drivers of other vehicles during collisions than are cars. Finally, these vehicles pose excessive risks to pedestrians because of their design, weight and historically weaker brake standards. The same technologies that will help to improve light truck fuel economy can help to improve their safety.

Even Ford has identified these problems. In its "Connecting with Society" report, Ford noted that "SUVs can raise safety concerns for drivers and passengers in other vehicles because of the height, weight and design differences between cars and SUVs, as well as the reduced visibility for cars in traffic with trucks of any sort."

The NAS Report recognizes that weight reductions in the heaviest vehicles can improve overall vehicle safety by creating greater compatibility between vehicles on the road. According to the K.G. Duleep, who served as a consultant to the NAS Committee, had the NAS incorporated appropriate weight reductions into the ranges of possible fuel economy improvements, these would have been greater by 20% than the mostly drivetrain related fuel economy improvements. Further safety improvements such as reducing differences in bumper height, stiffness and weight would save thousands of lives each year. Finally, instead of resisting fuel economy standards, automakers should be implementing safety improvements such as better seat belts, stronger roofs and crash avoidance.

GLOBAL WARMING

The biggest single step the U.S. could take to curb global warming is to raise fuel economy standards for cars and light trucks. America's cars and light trucks alone spew out 20% of U.S. global warming pollution. As the NAS Report points out this amounts to 5% of global carbon dioxide pollution. This is true despite the fact the U.S. has less than 4% of world population. The impact of cars and light trucks on global warming is enormous. Ford Motor Company

alone – production and vehicles—would be the 10th largest emitter in the world. As the world's leading polluter, the need for the U.S. to take action to reduce global warming pollution is pressing. By saving oil as part of national energy goals, a 40 mpg standard would yield significant cuts in CO₂.

The most recent projections of the United Nations-sponsored Intergovernmental Panel on Climate Change (IPCC) are that the earth's temperature will rise as much as 10.4 degrees F by 2100 and concluded that man-made global warming pollution has "contributed substantially to the observed warming over the last 50 years." By comparison, the Earth is only 5 to 9 degrees Fahrenheit warmer today than it was 10,000 years ago, during the last ice age. Throughout history, major shifts in temperature have occurred at a rate of a few degrees over thousands of years. They were accompanied by radical changes, including the extinction of many species. Human-induced global warming is occurring much faster; faster in fact than at any other time in human history. Unless we slow and ultimately reverse the buildup of greenhouse gases, we will have only decades, not millennia, to confront major changes in weather patterns, sea levels, and serious threats to human health.

The U.S. has failed to act domestically to reduce global warming pollution and abandoned the international process. The Senate should consider raising fuel economy standards for cars and light trucks as a key part of a strategy to reduce U.S. global warming pollution. Taking this step will show the world that the U.S. is taking action and will be a leader in curbing this enormous environmental threat.

PUBLIC SUPPORT FOR RAISING FUEL ECONOMY STANDARDS

Historically, overwhelming majorities of Americans support raising CAFE standards for automobiles. A recent poll of labor union households showed that 61% of these voters endorsed a statement that "increasing fuel efficiency is the single most effective action that could reduce national dependence on foreign oil. A Gallup poll conducted in November had 77% of Americans supporting raising vehicle efficiency.

Polling conducted during the spring, at the height of the debate over whether the nation was experiencing an energy "crisis" showed strong support for CAFE. A CBS/New York Times poll released in June revealed that 81% of Americans "Approve of the government requiring car manufacturers to meet higher fuel efficiency standards than they do now?" And 66% supported higher standards if it would increase the cost of the car (66% GOP and 70% Dem). Similarly, an ABC/Washington Post poll also released in June showed that 81% of Americans strongly support more fuel efficient vehicles.

An August 1999 World Wildlife Fund poll of light truck owners showed that 73% believed light trucks should be cleaner, and two-thirds would pay significantly more for their next truck if it polluted less. Significantly, 70% believed automakers will not clean up their trucks if they are not required to do so. Another August 1999 poll, by Zogby International, of predominately Independent and Republican voters in New Hampshire revealed that 75% favor increasing fuel economy to address global warming, even at an extra cost of \$300.

The results of these polls are consistent with polls dating back to the early 1990s. A 1991 poll conducted for the Union of Concerned Scientists demonstrated overwhelming public support, exceeding 80%, for requiring 40 to 45 miles per gallon fuel economy standards.

CONCLUSION

A 40 mile per gallon fuel economy standard for cars and trucks is a critical component of energy legislation. New standards are the key to delivering the oil savings necessary to reducing our dependence on oil. Given a ten year timeframe with appropriate interim goals, automakers could achieve a 40 mpg standard with technologies now available. Hybrid gasoline-electric systems, now in use in Toyota's Prius and Honda's Insight, could also be used to move fuel economy forward.

As this Committee crafts an approach to updating fuel economy standards and possible reforms to the current CAFE system, the

Sierra Club urges this Committee to consider the fact that CAFE standards have been enormously successful at saving oil and reducing global warming pollution. Further, the current system affords certainty in the amount of oil savings new standards could achieve. The Sierra Club would support appropriate reforms to the CAFE system, such as closing the light truck loophole, ending the dual-fuel vehicle program, and truth-in-testing.

There is no other policy option that will lock in the oil savings that new CAFE standards can. Savings that near 2 million barrels of oil per day in 2012 and ramp up to 4 million barrels will put the US on the road toward oil independence. While the CAFE system could use some reforms, such as closing the light truck loophole and ending the dual-fuel vehicle program and truth-in-testing, new standards would work. The auto industry will strongly oppose new standards. For example, General Motors claims that even a 3 mpg increase in light truck fuel economy could force them to eliminate their larger and most profitable SUVs – assuming the company chose this course of action to meet the higher standard. Yet, GM has announced that its new engine for these vehicles will improve their fuel economy by 2 mpg. The industry has better engines and other technologies, but without new fuel economy goals we will not see progress. No one is asking that the industry make 34 mpg SUVs tomorrow or next week, but we cannot afford to let the auto industry continue to drag fuel economy down. The consequences of oil dependence on our national security, economy and environment are too great.

The Sierra Club urges this Committee to support a 40 mile per gallon CAFE standard as a key part of responsible national energy legislation.