S. HRG. 109–1119

REFORMING CORPORATE AVERAGE FUEL ECONOMY (CAFE) STANDARDS

HEARING

BEFORE THE

SUBCOMMITTEE ON SURFACE TRANSPORTATION AND MERCHANT MARINE

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION
UNITED STATES SENATE

ONE HUNDRED NINTH CONGRESS

SECOND SESSION

MAY 9, 2006

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ONE HUNDRED NINTH CONGRESS

SECOND SESSION

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REFORMING CORPORATE AVERAGE FUEL ECONOMY (CAFE) STANDARDS

TUESDAY, MAY 9, 2006

U.S. SENATE,
SUBCOMMITTEE ON SURFACE TRANSPORTATION AND
MERCHANT MARINE
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Subcommittee met, pursuant to notice, at 10:30 a.m. in room SD–562, Dirksen Senate Office Building, Hon. Trent Lott, Chairman of the Subcommittee, presiding.

OPENING STATEMENT OF HON. TRENT LOTT, U.S. SENATOR FROM MISSISSIPPI

Senator LOTT. The Committee will come to order. I'm pleased to convene this morning's hearing on reforming Corporate Average Fuel Economy standards. Chairman Stevens had indicated that he would like the Subcommittee to go forward with this hearing despite the vote taking place on the floor a few moments ago. And I'm delighted that the Chairman is here, and that the other Senators are here, and some other Senators indicated to me, on the floor of the Senate, they'd be coming over momentarily.

I do want to point out that we have many Senators that are going to be here this morning, a number of very good witnesses, including the Secretary of Transportation, our friend Norm Mineta. And I, therefore, ask that all opening statements be placed in the record at this point, and I'll do the same myself and that we could go straight to the Secretary.

[The prepared statement of Senator Lott follows:]

PREPARED STATEMENT OF HON. TRENT LOTT, U.S. SENATOR FROM MISSISSIPPI

Since being introduced in the 1970s, Corporate Average Fuel Economy (CAFE) standards have been controversial. There has been much debate about their effectiveness and their effect on safety, consumer choice, and the automobile industry.

CAFE became so controversial, that it effectively was frozen for many years.

The stand-off over CAFE finally eased with Congress commissioning a National Academy of Sciences review of the CAFE program that was released in 2002. Although that study found that CAFE had in fact reduced energy consumption, the Academy was critical of how the program was structured and found that there was a negative impact on safety.

Just this spring, the Department of Transportation issued new reformed CAFE rules for pickup trucks, vans, and SUVs. This rule is a radical departure from prior CAFE rules in that it applies different standards to different sized vehicles rather than a uniform standard across the whole fleet. The Department's approach addresses many of the criticisms in the Academy's study.

The recent rule did not, however, include new standards for cars. Those standards have been the same since 1984 and there is considerable legal ambiguity about the Secretary's ability to increase the standards. It is clear that the law does not allow the Secretary to "reform" CAFE for cars, since that part of the statute is written differently.

Secretary Mineta is here today to discuss his request that these legal impediments be removed and that the Secretary of Transportation be given the authority to "reform" CAFE for cars.

I believe his request should be carefully considered. The Department has the technical and scientific expertise to develop a "reformed" standard for cars that carefully balances costs and benefits, including—importantly—safety.

After this hearing, I hope to work with members of the Commerce Committee from both sides of the aisle, as well as with other Senators with an interest in this issue to see if there is enough common ground to develop a legislative proposal that can be enacted. I am afraid that if we get sucked into a debate about developing a single mileage standard, this process will very quickly get bogged down. We should do something constructive and update the existing cumbersome rule, which has not been changed since 1984, thereby doing away with the many worrisome attributes identified by the National Academy of Sciences.

Senator LOTT. Mr. Chairman, would you be willing to go forward on that basis?

The CHAIRMAN. That's fine.

Senator LOTT. If my colleagues would be willing to do that, we'll include our statements in the record.

Senator CANTWELL. Well, Mr. Chairman, I do think it's an important hearing, and we're glad that the Secretary of Transportation is here, and we look forward to his comments. I do have a statement, but happy to put that into the record and proceed with the hearing.

Senator LOTT. Thank you very much, Senator Cantwell.

Secretary Mineta, we're delighted to have you back before the Committee, and we're very anxious to hear your thoughts on this very important issue. Please proceed.

STATEMENT OF HON. NORMAN Y. MINETA, SECRETARY, DEPARTMENT OF TRANSPORTATION; ACCOMPANIED BY JEFFREY ROSEN, GENERAL COUNSEL, USDOT, AND JACQUELINE GLASSMAN, DEPUTY ADMINISTRATOR, NHTSA

Secretary MINETA. Very well, thank you very much. Mr. Chairman and members of the Committee, thank you very, very much for the invitation to have this opportunity to discussing reforming Corporate Average Fuel Economy standards for passenger cars.

Last week, at the President's request, I sent a letter to Congressional leaders asking for the authority to reform the structure of the current CAFE program for passenger cars. And I ask, at this time, unanimous consent that my letter of April 27th to the majority leader be made a part of the hearing record.

Senator LOTT. Without objection, it will be included in the record at this point.

[The information previously referred to follows:]

U.S. DEPARTMENT OF TRANSPORTATION
Washington, DC, April 27, 2006

Hon. BILL FRIST,
Majority Leader,
United States Senate,
Washington, DC.

Dear Bill:

At the President's request, I hereby ask that the Congress take prompt action to authorize the U.S. Department of Transportation (DOT) to reform fuel economy standards for passenger automobiles for the first time. Along with other previously announced energy policies, the President believes these actions are critical to promoting our Nation's energy security and independence.

The Administration has already shown strong leadership on fuel economy. The DOT raised the light truck and sport utility vehicle standards twice in the last four years, including a recently announced rulemaking that will save nearly 11 billion gallons of gasoline, eliminate incentives to make lighter and therefore more dangerous vehicles, and encourage all manufacturers, not just a few, to deploy fuel saving technologies.

Our National Highway Traffic Safety Administration (NHTSA) has the technical expertise to regulate fuel economy in a manner that is cost effective, based on sound science and safeguards vehicle occupants. Substantial increases in CAFE standards under the current single standard approach would increase fatalities on America's highways, raise healthcare costs and reduce employment. As a result, the Administration would oppose any increase in passenger car CAFE standards without corresponding reform.

In addition, it is imperative that CAFE standards be set through an administrative process based on sound science and data. The administrative process provides safety and other public interest groups, the auto industry and the general public an opportunity to develop and provide NHTSA with policy suggestions and detailed technical, economic, and other relevant data necessary for reforming the passenger car CAFE system and setting new CAFE standards.

I commend Congress for their strong interest in improving our country's energy independence, and I look forward to working with you to achieve this important objective.

An identical letter has been sent to the Minority Leader of the Senate, the Speaker of the House of Representatives, and the Minority Leader of the House of Representatives.

Sincerely yours,

NORMAN Y. MINETA,
Secretary of Transportation.

Secretary MINETA. Mr. Chairman, this is an important step toward reducing America's oil demand as passengers account for some 43 percent of domestic oil consumption. Now, this Administration has a good record on improving CAFE. Members may recall that, in 2001, at my request, Congress ended the 6-year freeze on CAFE rulemaking. Later that year, the National Academy of Sciences issued a Congressionally-mandated study that was critical of the CAFE program. Among the report's criticisms was that CAFE had probably cost between 1,300 and 2,600 lives in one year alone, 1993, because it encouraged automakers to build smaller vehicles. Paul Portney, the chair of the committee which wrote the landmark study, said, upon its release, "No matter what Congress decides regarding specific fuel economy targets, our committee is adamant that changes should be made to shore up the deficiencies in the program."

In response to this study, I directed NHTSA to begin reforming CAFE for light trucks. On March 29 of this year, we completed that reform by issuing a rulemaking that replaced the single fuel economy standard with an innovative size-based system. Allow me to

explain why basing a fuel economy standard on a vehicle's size is superior to the current one-size-fits-all approach.

First, a size-based system preserves vehicle choice. Instead of forcing manufacturers to produce smaller vehicles to comply with these regulations, this approach takes the automaker's own product-mix projections and applies separate fuel economy targets to each vehicle based on its footprint. Under a size-based system, automakers will be able to build cars that consumers want to buy, but those cars will have to be more fuel efficient across the board.

Second, a size-based system eliminates the incentive for automakers to produce smaller and, consequently, less safe vehicles by encouraging manufacturers to add fuel-saving technologies to boost fuel efficiency.

Third, a sized-based system ensures that all automakers are encouraged to use fuel-saving technologies, not just the manufacturers of larger vehicles.

Our new light-truck standards under the reformed CAFE will save a record 10.7 billion gallons of fuel. All told, the Administration has raised CAFE standards for light trucks for 7 consecutive years, from 2005 to 2011. Today, because of our successful reform of the light-truck CAFE program, we have the capacity to establish a far more precise, equitable, and safe CAFE program for passenger cars. However, we currently lack the legal authority to do so. The original CAFE standard for passenger cars was set at 27.5 miles per gallon more than 30 years ago, back in 1975. Neither Congress nor the Department of Transportation has ever increased this standard beyond the level set in the original statute.

So, it's important that, if passenger car fuel economy standards are raised, that we make the necessary structural reforms to avoid compromising safety and causing job loss. If given the authority to reform CAFE for passenger cars, we will replace the one-size-fits-all system with a size-based system, as we did with light trucks. Based on the automaker's confidential product plans, our experts at NHTSA can objectively measure how much fuel-saving technology we can require before the cost outweighs the benefit.

Now, this method of formulating a fuel economy standard is science-based, subject to review, and is free from the deficiencies identified in the National Academy of Sciences study. It's also far more likely to produce an optimal result than if Congress were to prescribe a standard in a statute. For this reason, we will not accept an arbitrary statutory increase under the current passenger car system.

Mr. Chairman, the President does not ask for this authority lightly. And I am aware that certain automakers are having a rough time financially, and that thousands of hard-working Americans have lost their jobs as a result. But this Administration has also made great strides in improving fuel economy for light trucks without harming the economy or compromising safety. And so, I respectfully ask for the authority to achieve similar gains for the passenger car fleet.

Mr. Chairman, I am ready to take questions.

[The prepared statement of Secretary Mineta follows:]

PREPARED STATEMENT OF HON. NORMAN Y. MINETA, SECRETARY, DEPARTMENT OF TRANSPORTATION

Mr. Chairman, thank you for inviting me to appear before this Committee today to discuss reforming corporate average fuel economy (CAFE) standards for passenger cars.

On April 27, the President asked Congress for the authority to reform the structure of the current CAFE program for passenger cars for the first time in the program's 30-year history. This is an important step to reduce America's dependence on foreign oil, and is consistent with President Bush's call to replace more than 5 million barrels per day of oil imports by the year 2025. Currently, passenger cars account for 23 percent of domestic oil consumption.

Mr. Chairman, this Administration has a good record on improving CAFE. Senators may recall that in 2001, at my request, Congress ended the six-year freeze on CAFE rulemaking. In 2002, the National Academy of Sciences (NAS) completed a study, at Congress's request, that was highly critical of the current CAFE program. Among the criticisms contained in the NAS report was the contention that the CAFE program probably had cost between 1,300 and 2,600 lives in one calendar year alone (1993) because it encourages automakers to build smaller vehicles in order to "average out" fuel savings across their fleets. The chair of the committee wrote, ". . . no matter what Congress decides regarding specific fuel economy targets, our committee is adamant that changes should be made to shore up deficiencies in the program." To correct these longstanding safety and other deficiencies in the CAFE program, I directed the National Highway Traffic Safety Administration (NHTSA) to begin reforming CAFE for light trucks based on the NAS recommendations. Unlike with passenger cars, the Administration does have the authority to reform CAFE for light trucks.

On March 29 of this year, NHTSA completed its reform of CAFE for light trucks by replacing the one-size-fits-all system with an innovative size-based system. Allow me to explain why this reformed system that bases fuel economy standards on a vehicle's size is superior to the current "one-size-fits-all" approach.

- First, a size-based system preserves vehicle choice: Instead of forcing manufacturers to produce smaller vehicles for purposes of regulatory compliance, this approach takes the manufacturers' own product mix projections and then applies separate fuel economy targets to each vehicle based on its dimensions. Under a size-based system, automakers will still be able to build the cars consumers want, but those cars will have to be more fuel efficient across the board.
- Second, a size-based system eliminates the perverse incentives for manufacturers to produce smaller and more dangerous vehicles instead of introducing fuel-saving technologies.
- Third, a size-based system ensures that all manufacturers are introducing fuel-saving technologies, not only the manufacturers of larger vehicles.

Our new light truck standards will lead to a safer, more efficient CAFE program and will save a record 10.7 billion gallons of fuel. This rule also included large sport utility vehicles (SUVs), such as the Hummer H2, under CAFE for the first time. All told, this Administration will have raised CAFE standards for light trucks for seven consecutive years, from 2005 to 2011.

Today, following our successful overhaul of the light truck CAFE program and consistent with the recommendations of the NAS, we have the capacity to establish a far more precise, efficient, and safe CAFE program for passenger cars, but we do not have the legal authority to do it.

The passenger car fuel economy standard was set in law at 27.5 miles per gallon in the original 1975 CAFE statute. Some of the more senior Senators may recall that the 27.5 miles per gallon standard was arrived at by simply doubling what the average fuel economy was in 1975. The passenger car standard was not then, and certainly is not now, based on sound science or economics.

The original statute did not authorize DOT to change the way the standard applied to different size cars. Neither Congress nor DOT has ever increased the passenger car standard beyond the level set in the original statute. So it is important that if we embark on this course, we do it right to avoid compromising safety and to avoid causing economic damage and job loss.

If we are given the authority to reform the CAFE system for passenger cars, we can improve fuel efficiency by requiring manufacturers to apply fuel-saving technologies rather than giving them an incentive to build smaller cars. Based on the automakers' confidential product plans, our experts at NHTSA can objectively measure how much fuel-saving technology we can require before the costs outweigh the benefits. This method of formulating a fuel economy standard is objective and sub-

ject to review during the rulemaking process. It is also far more likely to produce an optimal result than if Congress were to prescribe a standard in a statute.

The President and I are committed to improving fuel economy across the board through an open regulatory process built upon sound science and economics, but we will not accept an arbitrary statutory increase under the current passenger car system.

Mr. Chairman, I know that whenever CAFE is debated, it can turn divisive. When the original CAFE statute was debated, I was a freshman Member of Congress. I recall well the debates of the 1970s on how best to conserve fuel and what the impacts would be on the economy. I remind Senators that CAFE reform will not be without cost. And I am aware that certain automakers are having a rough time financially, and that thousands of hard-working Americans have lost their jobs through no fault of their own because of these financial difficulties.

Mr. Chairman, the President did not ask for this authority lightly. But this Administration has already made great strides in improving fuel economy for light trucks. We have the expertise and experience to boost fuel economy responsibly without needlessly sacrificing safety or American jobs. I now respectfully ask for the authority to achieve similar gains for the passenger car fleet.

Senator LOTT. Well, thank you, Secretary Mineta. And to my Senate colleagues that are here, we'll go ahead and have an opportunity to make a brief statement or ask questions of Secretary Mineta, and then we'll go to the second panel. I would ask, though, that you be as brief as you can.

Let me take the prerogative of the Chair just to ask the first question, then yield to the Chairman of the full Committee.

In your letter to Congress and in your testimony here today, it's clear that you not only want the authority to increase the CAFE standard, but the authority to reform it. What is it about the current system that makes you feel like we need to effectively start over and realign it—or reform it—for the passenger cars?

Secretary MINETA. Well, typically, the stringency of the gas mileage efficiency standard is set at a certain amount. And when the manufacturers have that, they then, in order to meet that miles-per-gallon standard, generally tend to lower the weight of the car in order to meet that fuel efficiency standard. And unfortunately, once you lower the weight of the car, then fatalities and serious injuries go up.

We feel that we have to reform the performance standards—as we said in the light-truck rule—based on the footprint of the vehicle, that would be the width of the vehicle times the length of the wheelbase.

Senator LOTT. It appears to me that you did a good job with the light trucks. Passenger vehicles are different, obviously, but based on your statement, you feel like you could come up with changes that will be as effective or as widely accepted as your light-truck decision?

Secretary MINETA. Yes, sir, we believe so, because, under the law, there are four requirements that we have to look at. One is the maximum feasible fuel efficiency/economy, the need to conserve fuel, the requirement to save lives, and the fourth one, in terms of preserving jobs, or the impact on the auto manufacturers.

Senator LOTT. You may not have the answer to this, because it'll depend, I guess, on, you know, the process and getting the right result. How long, though, do you think this would take?

Secretary MINETA. Well, there are two parts to that answer, Mr. Chairman. One is, we have to allow the manufacturers, under statute, 18 months lead time. The model year is generally October of

a given year. We have to give them 18 months. And so, that's April—18 months ahead of that model year.

Now, in order for us to come up with that study, in terms of what would be the fuel efficiency standard, I would assume that it would take a minimum of 1 year. So, even if we were to start today, we would have to have the rule out by April 1, 2007, in order to be able to impact on model year 2009. So, you're talking at least 2-and-a-half years between the 18-month mandatory, under statute, plus at least 1 year for us to do our studies. I should have introduced the folks at the table with me. On my right is Jeff Rosen, our general counsel at the Department, and on my left is Jackie Glassman, our deputy administrator of NHTSA.

Jackie?

Ms. GLASSMAN. Yes, as the Secretary mentioned, it would take us about a year to collect the data from the manufacturers, go through that data, go through a rulemaking process, including notice, and then comment period and review of the comments, in order to put out a final rule applicable to passenger cars. So, in all likelihood, that would be model year 2010.

Senator LOTT. Thank you all for being here.

Mr. Chairman, would you like to go with your questions now, sir?

The CHAIRMAN. I don't quite get the 2010. I thought it was going to be 2009.

Ms. GLASSMAN. If we could get a final rule out by April 1, 2007, then that could be applicable to model year 2009. Beginning now, in June of 2006, that would be a huge feat, to be able to get the product plans from the manufacturers, review them, put a notice out, give appropriate time for manufacturers and others with an interest—public-interest groups—to comment on the proposal, and come up with a final rule.

The CHAIRMAN. Is the cost of change any part of a factor in these CAFE standards?

Ms. GLASSMAN. Absolutely, sir. We look at the cost to change. We look at lead-time considerations. We look at the cost to the economy, the cost to jobs, the cost of lives, in terms of safety. We look at the Nation's need to conserve energy. And we balance all of those factors to reach the maximum feasible level we can possibly set CAFE at, taking into account the fact that we do not want to cost lives and we do not want to cost jobs.

The CHAIRMAN. And in terms of the light trucks, have you determined what the increase in cost to the consumer of the new trucks would be because of your regulations?

Ms. GLASSMAN. Yes, sir. The total cost of our light-truck rule was about $6.7 billion. The cost to consumers, on average, was about $200 a vehicle. And the payback period, in terms of how long it would take people in the reduced cost of fueling up their vehicles, was about 4-and-a-half years.

The CHAIRMAN. Is there any estimate on what the cost is going to be to the consumer, of compliance with the change in CAFE for passenger cars?

Ms. GLASSMAN. No, sir, we haven't done that analysis yet. That's what we would have to do if we were given the authority to reform the program and raise the standards.

The CHAIRMAN. Do you have any standards that have been adopted in foreign countries that you look at as you go forward on these standards?

Ms. GLASSMAN. We look at the product plans for the United States in a number of foreign countries——

The CHAIRMAN. No, I mean the standards, as far as construction and what will lead to the cost savings—I mean, the fuel savings in CAFE.

Ms. GLASSMAN. There are a number of different approaches in different countries. In Europe, for example, they have 40 percent diesel vehicles. We don't have that kind of penetration of diesels and hybrids yet in the United States. In China, they're using a weight-based system. They have a very different kind of product mix. So, we really focus more on the products and consumer choices made in the United States.

The CHAIRMAN. Are the CAFE standards affected by the use of ethanol?

Ms. GLASSMAN. The CAFE standards themselves are not. That is in law. There is a credit given for the production of dual-fuel vehicles or vehicles that can run either on gasoline or ethanol. But, by law, NHTSA is not allowed to consider those credits when actually setting the CAFE standards.

The CHAIRMAN. But will CAFE standards vary for those vehicles that are built to use a higher amount of ethanol?

Ms. GLASSMAN. They don't vary by vehicle. There's one standard for a manufacturer's entire fleet. But certainly the increased use of ethanol will increase fuel economy and help the overall balance of fuel economy in the United States.

The CHAIRMAN. Well, we were told at another hearing that it is possible for the manufacturers to develop their motors so that they could use a higher degree of nonfossil fuels. Put it that way. Does that crank into your CAFE standards calculation? Am I clear on what I'm saying?

Ms. GLASSMAN. It does if they're being put into the manufacturer's product plans. We look in the manufacturer's product plans for whatever time period we're looking at, which, for passenger cars, would be somewhere between 2009 or 2010 forward, for a few years, and if those kinds of vehicles are being put into the marketplace in that time frame, then, yes, we would absolutely be looking at them.

The CHAIRMAN. Well, I was told if the Department recognized the change in the motors that could be made, in terms of CAFE standards, that a great deal of the savings we want to achieve could be done just by that alone. You're looking at the overall construction of the vehicle, including the motor, isn't that right?

Ms. GLASSMAN. We are. We look at the overall construction of the vehicles. We look at safety and other emissions equipment to see how much weight that adds. When we're setting CAFE standards themselves, we're looking at more short-term gains from the standard setting. But CAFE itself is a long-term effort, as is the development of alternative fuel.

The CHAIRMAN. But what I'm saying is, we were told we could move forward faster by just the motor's change. Is that correct?

Ms. GLASSMAN. If the motors are—if those kinds of changes in the vehicles are being put into the product cycle, then we would see greater changes, faster.

The CHAIRMAN. Thank you.

Senator LOTT. Thank you, Mr. Chairman.

Senator Lautenberg, I understand perhaps I was supposed to go to Senator Cantwell next, and I would be glad to recognize her if——

Senator CANTWELL. Well, Mr. Chairman, I understand that Senator Lautenberg showed up early to try to get on first for another obligation, so I'll defer to him, and let him ask his questions.

Senator LAUTENBERG. That's very nice, but I'm not deferring to anybody else.

[Laughter.]

Senator LOTT. That was a——

Senator LAUTENBERG. Thanks, Mr. Chairman.

Senator LOTT. Comedy is really good this morning. Thank you, Frank. Go ahead.

[Laughter.]

STATEMENT OF HON. FRANK R. LAUTENBERG, U.S. SENATOR FROM NEW JERSEY

Senator LAUTENBERG. So far, we're doing pretty good, Mr. Chairman. And I thank you for calling this hearing.

I listened very carefully to the Secretary and the plans that he'd like to see put into place, but I have a problem with some of the supporting view. The reason we're doing this, I understand, is because we've got this enormous pressure now in the excessive fuel use at these ridiculous prices. I noted that some are concerned about the crash-worthiness of smaller cars, and that we might have increases in fatalities if we reform CAFE. I think the number was 1,300 to 2,600 lives. But I would wager that the fact that we don't fix our highway hazards, our bridge deterioration, and our behavioral problems like drunk driving—we don't do the things that make the roads safer—causes death and injuries as well. I think people here are very well aware of my interest in drunk driving and how by simply raising the age for drinking legally we save a thousand lives a year.

So, not to diminish the concern about the loss of life, I'd point out that alcohol-related fatalities increased 1.7 percent, from 16,694 to 16,972. That's over 1 year, from 2004 to 2005. And, frankly, I don't buy the argument that the concern has got to be the fact that you run the risk. We don't want to run risk with anybody, but what's the risk that's put upon this country by this incredible cost for fuel? The average family is going to spend $1,800 a year more for fuel. And there are lots of people whose incomes aren't 10 times or 15 times more than that.

On a different note, Mr. Secretary, there's something I'm concerned about. There are three seats remaining unfilled on the Amtrak board. If we could get people into trains—and we can do it if we improve the ride and the service—we know these seats can be occupied. The open seats are supposed to be filled with Democratic nominees. Will the Administration consult with the Senate Minority Leader to see that the President nominates members to fill

these seats? Let's see if we can make some improvements there, even as—and I am pleased to see that there is an interest in increasing CAFE standards, but an increased passenger rail service is a place where we could really do something at the same time to reduce our dependence on foreign oil.

Secretary MINETA. Well, we have consulted with the Minority Leader right now on a nominee for the board. And the name is pending, I believe, at the White House right now.

Senator LAUTENBERG. There are three seats open, Mr. Secretary.

Secretary MINETA. Yes, sir.

Senator LAUTENBERG. But if you have one name—and this is not a new discussion, as you're aware. So, I urge you to—let's get on with fixing parts as we can—as quickly as we can.

Early in the Administration, Vice President Cheney held private meetings with energy industry executives regarding policy in our country. Two-thirds of all of petroleum used in our country is for the transportation sector. Were you involved in these meetings when they took place, Mr. Secretary, with the senior executives from the oil companies and the officials from the Administration to try and develop that energy policy package that was passed here?

Secretary MINETA. Yes. I was a member of that Energy Policy Task Force. I was not privileged to sit in on any of the meetings with the Vice President that you were referring to.

Senator LAUTENBERG. How about meetings with oil industry executives?

Secretary MINETA. None directly.

Senator LAUTENBERG. You didn't——

Secretary MINETA. I did not have any.

Senator LAUTENBERG. Didn't have any. As you all know, cars and trucks account for about 20 percent of the U.S. carbon dioxide emissions. Since the Administration won't commit to increasing CAFE standards for passenger vehicles, and it's alleged that that needs Congressional approval, how do we reduce the impact of global warming coming from cars, unless there is leadership from the Administration?

Secretary MINETA. Well, we haven't said that we would not raise the CAFE standard. What we're saying is that the stringency of that CAFE standard alone is not going to fix the problem. And what I am asking for is the reform of the structure of the program. And I cannot restructure the program without the legal authority to do that. It's not the stringency, it's not the miles-per-gallon standard that——

Senator LAUTENBERG. Well, wouldn't that matter substantially, Mr. Secretary?

Secretary MINETA. No, my point is that just setting the miles-per-gallon standard alone does not take into consideration the total picture that we have to look at under the law. Under the law, we have to look at maximum feasible fuel economy, the ability to save lives, the ability to conserve energy, and the ability to save jobs or the impact on the manufacturer. Now, those are the factors that we have to, under statute, look at in order to establish the miles per gallon. And so, that's why we have to have the authority to reform the structure. We cannot just reform the structure administratively.

Senator LOTT. Thank you very much.
Senator LAUTENBERG. Thank you.
Senator LOTT. Senator Smith?

STATEMENT OF HON. GORDON H. SMITH,
U.S. SENATOR FROM OREGON

Senator SMITH. Thank you, Mr. Chairman. And, Secretary Mineta, it's nice to see you. Thank you for your service.

It's hard to believe, but I've been in this chamber now for 10 years, and I have voted for CAFE standards, and I have voted against some that went, I thought, too high. I have always recognized, in voting for them, that this was a very blunt instrument to try and incentivize a good thing, which is fuel economy. I know Congress has always held onto this authority that you're asking for, because the other competing values of jobs and safety really do require our attention, as well. We can't just dismiss those in the name of fuel economy. But I'm also aware that other nations have tried programs, the fee-bate program that I think you're asking for, something other than just a quota for so many vehicles to be sold at certain mileage levels. I understand Ontario, Canada, has such a fee-bate program. In other words, the heavier, less-efficient vehicles, they simply pay more; the lighter, more fuel efficient vehicles, they actually get rebates. Is that the program that you're describing?

Secretary MINETA. No. What we're doing is really basing it on the size or the footprint of the vehicle, as we did with the light trucks, so that we have a continuous curve based on the size of the vehicle. And in order to do that kind of structural reform under the CAFE program, we need that authority in law, which I requested from Congress in 2001.

Senator SMITH. And you feel it's worked for light trucks.

Secretary MINETA. It has, and that's why we would like—because of the experience we've had with light trucks, we——

Senator SMITH. Has the light-truck approach been sufficient? Are we getting as much savings from it—in terms of fuel consumption——

Secretary MINETA. Well——

Senator SMITH.—as we could?

Secretary MINETA.—we think that for the model years that we are now embarking under this new program—and it will be mandatory for the model year 2011—we feel that that is a good approach.

Senator SMITH. The approach that you're asking for, have any other nations tried it? And how has it worked for them? I know individual states have looked at such things, and that they have been discouraged from that, because of Federal pre-emption.

Secretary MINETA. Let me ask Ms. Glassman that.

Ms. GLASSMAN. As the Secretary indicated, the approach that we're asking for is part and parcel of the current statutory structure, but it would allow us to go further than the limits that are imposed by the statute itself. Other countries have taken a number of different kinds of approaches. There are also a variety of ideas out there, market-based approaches, such as fee-bates that you mentioned. And we would look at a national fee-bate program, but we haven't yet done that.

Senator SMITH. But you would do that if——
Ms. GLASSMAN. We would——
Senator SMITH.—we gave you that——
Ms. GLASSMAN. We would——
Senator SMITH.—authority?
Ms. GLASSMAN.—study that. But that is a reform which is beyond the kind of reform that we're specifically asking for today.

Senator SMITH. Well, one of the problems we have here in giving you the authority is that this doesn't break down in terms of Republican or Democrat. So it's actually helpful, Mr. Secretary, that you're a Democrat. I have noticed that there are two schools of thought on this. One's all carrot, and the other's all club. And somehow I think we've got to figure out how to balance the competing interests of fuel economy, jobs, and safety with some combination of incentives and regulation. The problem we have, it seems to me, in giving you this authority, is the fear of what the next Administration would do with this. There is a fear CAFE standards will be arbitrarily undertaken to do something that just simply is devastating to the auto industry or devastating to safety, all in the name of fuel efficiency. As a Democrat, sir, do you think that that's probable? Are those fears unfounded? Should we trust the Executive Branch of government with what is a very, very important issue, on three counts?

Secretary MINETA. I see no reason why that cannot be done, because Congress still has the oversight responsibility of what happens in law. And so, Congress still has the ability to change the law at that point, if it's not working. And so, I see no problem with that approach at all.

Senator SMITH. Thank you, Mr. Chairman.

PREPARED STATEMENT OF HON. GORDON H. SMITH, U.S. SENATOR FROM OREGON

Mr. Chairman, I want to thank you for convening this hearing on automobile fuel efficiency. I look forward to hearing from the witnesses appearing before the Subcommittee today.

Since Hurricane Katrina, we have had numerous hearings in various Senate committees about high gasoline prices. A few things have become quite evident over the last nine months, as prices have remained at historically high levels. First, the United States is heavily dependent on oil imports and we are now competing with emerging economies such as China and India for oil resources. Second, we rely on nations that are politically volatile, such as Venezuela, Nigeria, and Iran, for much of our imported oil. Third, our domestic production and refinery capacity are heavily concentrated in the Gulf of Mexico—an area prone to hurricanes. Fourth, as a Nation, we have made little progress in vehicle fuel efficiency while the population is increasing and the average American is driving more miles each year.

Even Congress can't repeal the laws of supply and demand. We know that most of our oil is used in the transportation sector, and that demand is increasing. We also know that supplies are fairly stagnant. Over 70 percent of current production comes from oil fields that have been in production for more than 30 years. There is currently less than two percent surplus production capacity globally.

We know, intellectually, what it is going to take to solve our dependence on foreign oil. Numerous studies have told us that we need more efficient vehicles, and we need alternative fuels for those vehicles. There is widespread agreement that those are the two most important actions we could take. The challenge is that it requires some major changes to the entire sector—from design and manufacturing of vehicles to development of the infrastructure to support advanced technology vehicles.

The United States is significantly more dependent on imported oil today than it was in 1973, when the oil embargo was imposed. Back in the 1970s, Congress recognized the importance of vehicle efficiency, and we adopted CAFE standards that

moved our vehicle fleet to significantly higher efficiency levels by 1990. Unfortunately, that is the last significant step we've taken. We've had numerous discussions since then, and while I haven't been here for all those debates, I do recall the Senate floor debate in connection with trying to pass an energy bill in 2002. At that time, I had joined Senator Kerry and several colleagues in sponsoring an amendment to increase CAFE standards. Our amendment would have increased auto efficiency levels to an average of 36 miles per gallon by 2015.

The amendment was ultimately withdrawn after arguments that mandating increased fuel efficiency levels would hurt our domestic auto industry, and that it would take choices away from Americans. Instead, we passed an amendment that asked the NHTSA to study CAFE standards to determine whether they should be increased. We failed to take action, in part, because gasoline was significantly less expensive in 2002 than it is today.

Four years later, gasoline is over $3 a gallon and prices are expected to remain high into the foreseeable future. I want to focus briefly on where we are now. I have a chart here that compares auto efficiency levels for several countries. The message is clear. Of all nations around the world, we have—by far—the lowest auto efficiency levels. Our cars and light trucks have an average efficiency of less than 25 miles per gallon, while China and Australia have average efficiencies above 30 miles per gallon, and both the European Union and Japan have average efficiencies above 40 miles per gallon. What's more, these other regions have policies in place that are expected to move their average efficiencies upward. Unless we also act, we'll fall even farther behind.

We declined to act in 2002 at least in part because it was argued that increasing CAFE would cost us jobs in our domestic auto industry. Well, inaction certainly didn't help us on that front. Here's a graph showing auto industry jobs since 1990. We've lost 215,000 jobs just since 2000, and more job losses in the domestic auto industry are projected for the next few years. I happen to believe that part of the reason for auto job losses today is because our manufacturers aren't making the right vehicles. The global market is now demanding more efficient vehicles, and we don't have them to sell.

Let me make one final comparison. In 2002, we were spending $300 million per day on oil imports. Today that number is $800 million—almost $1billion per day—for the oil we're importing.

We can no longer afford the status quo. As a first step, I am working on a bill to encourage the investment in plants to manufacture more efficient, alternative vehicles, as well as the fueling and interconnection infrastructure that will be needed to provide alternative fuels and re-charge plug-in hybrid vehicles. This bill will also lift the cap on the number of alternative vehicles eligible for tax credits as requested by President Bush last week. My bill will also encourage such transportation alternatives as bicycling and telecommuting by providing favorable tax treatment related to the costs of those alternatives to commuting.

While these tax measures will make a difference, we must do more to increase the efficiency of our highway fleets. We have several options. We could mandate higher efficiencies, higher CAFE levels. as we did in the 1970s. We should also study whether alternative regulatory structures would be more effective than the current CAFE system. Regulatory alternatives that have been discussed, and should be examined, include fuel efficiency standards based on vehicle weight classes or footprints, or a program that provides rebates on efficient vehicles and imposes fees on less efficient vehicles.

The U.S. auto industry is at a crossroads: innovation or obsolescence. I believe that we can use technology and American ingenuity to create a new generation of advanced technology vehicles. We can, and we must, have vehicles that are more efficient, while preserving passenger safety features and customer choice. It is a tall order, but American industry is up to the challenge.

Senator LOTT. Senator Cantwell? Thank you for your courtesy this morning, too.

STATEMENT OF HON. MARIA CANTWELL,
U.S. SENATOR FROM WASHINGTON

Senator CANTWELL. Thank you, Mr. Chairman.

Mr. Secretary, I believe you were in Congress in 1975, isn't that correct?

Secretary MINETA. I was.

Senator CANTWELL. That was your first term. And that's the year that Congress passed an energy bill with a CAFE standard in it, which I think, at that time, proved to be one of the least controversial aspects of that bill when it passed. And the savings that we get today from that is nearly 3 million barrels per day, than we would have had if we had not passed that legislation. So, to me, it's been a great success.

Now, we've heard a lot about this light-truck——

Secretary MINETA. Senator Cantwell, could I comment on that just a minute?

Senator CANTWELL. Yes——

Secretary MINETA. That's all right. Go ahead. That's all right.

Senator CANTWELL. Let me——

Secretary MINETA. That's all right. You go ahead.

Senator CANTWELL. If I could, because we're——

Secretary MINETA. Sure.

Senator CANTWELL.—only on 5-minute rounds here. You've commented about the lightweight truck standards, and my colleagues have also commented on that. I guess I have a little bit different perspective, in that fact, you know, the establishment of the vehicle classes and the use of the footprint, rather than the weight, in the end result, to me, has been, I would say, anemic. The new rule covers 240,000 large SUVs, or 2.8 percent of the 8.5 million light trucks sold annually. In addition, the rule does not include trucks that weigh between 8,500 and 10,000 pounds, such as the Hummer H2—that is, until the 2011 date—and does not cover those that weigh over 10,000 pounds. So, although the impact analysis done by NHTSA found that the final rule for the light truck will save 7.8 billion gallons of fuel, that's the study, not the 10 billion gallons previously advertised. So, maybe you could comment on that. And, moreover, the analysis found that 2.9 billion gallons of the fuel savings would have come from changes that the automakers would have made to their fleet due to market forces anyway. So, that's my reading and analysis of the lightweight truck scenario.

So, now if we're talking about restructuring, and we're talking about a more aggressive ramp—because I would like you to—I would like you to say if the Administration plans on moving up the passenger car mileage standard from where it is today. There has been several proposals here in the Senate to move passenger cars up to 40, and I don't know whether the Administration supports that or not—and trucks up to 27. But what would be the—how could we be assured that the Administration would have an aggressive ramp-up, given the international situation that we're facing, given the economic situation that we're facing? And how would you characterize that bold step today? How would you measure that, as a bold step?

Secretary MINETA. Well, I think, first of all, what we did in the light-truck rule was a bold step, in terms of where we were previously, and we feel that the way we've formed the program, and the results, is a bold step forward. Remember, for some 6 or 7 years, Congress had a prohibition of our even dealing with the whole light-truck rule at all. And that's why I requested in 2001—in July of 2001, requested that I be given the authority to deal with light trucks. In December 2001, Congress gave us the authority to

do that. So, with that experience from the light truck, I feel we can do the same thing as it relates to passenger cars.

Now, you mentioned the 10.7 billion gallons of gas that we say that we will save from the light-truck rule, and that is the 7.8 billion that we compute from our own rule, as well as the 2.9 billion which the auto manufacturers are incorporating into their light trucks, minivans, and SUVs because of the rulemaking. And so, that's why we claim the 10.7 billion total gallons.

But, again, I feel that we can use the experience that we have gained in the light-truck rule to do the same thing in terms of the private passenger——

Senator CANTWELL. So, in levels of boldness—if I could, in levels of boldness, you're saying that the Administration's policies would be similar to what they've done in lightweight trucks.

Secretary MINETA. I think that what we have done in light trucks was a bold move. Again, it's not just a question of establishing or determining what the level might be. Forty miles per gallon may not be a level that is attainable without losing jobs, impacting on the manufacturing capability, and—even though we can conserve fuel—and it does give us a high standard. But, again, we are obligated to look at four factors. And someone just picking out of the air a figure—and we feel that what we do is based on science and economic data and the projection of the fleet from the manufacturers.

Senator CANTWELL. Do you—given that the Administration—I know my time is up, but if I could just——

Senator LOTT. All right.

Senator CANTWELL.—one more follow-up. I know that various Members of the Cabinet have now called this an "energy crisis." And, given the fact that they have called it a "crisis," do you think maybe a different, or a bolder approach, given that you're saying you have various categories, is for the Administration to set an actual goal savings by barrels of oil?

Secretary MINETA. Well——

Senator CANTWELL. Because if we look at CAFE, and we say that we've saved, you know, 3 million barrels per day, maybe a different approach would be for the Administration to say, "Here's how much they want to save," given—and given the last energy bill in which they opposed even a 1 million barrel oil savings a day, maybe the Administration could better convey their boldness by setting a goal for this particular reduction in consumption.

Secretary MINETA. Well, I think the reference to the "energy crisis" was attributed to, as I recall, Secretary Bodman. But when you look at the President's response, it's really a four-point program that he has that is short-term, mid-term, and long-term. I don't believe the Administration—And I know I have not—advocated that the CAFE is a short-term response to the energy crisis. This is really a long-term response, in terms of the energy crisis. This is not a response to $3.50 at the pump, because this will not deal with $3.50 at the pump immediately. But it will impact on—in terms of fuel savings over a long period of time, and in terms of one segment of the energy consuming part of the economy, the automobile.

Senator CANTWELL. Thank you, Mr. Secretary.

Senator LOTT. Thank you, Mr. Secretary.
Senator Boxer?

STATEMENT OF HON. BARBARA BOXER,
U.S. SENATOR FROM CALIFORNIA

Senator BOXER. Thank you. And welcome, everybody.

I wanted to thank Senator Cantwell for her line of questioning, because I know she's very expert in this area, and, you know, her probing you on the boldness of your move is something that I think a lot of Americans share. They can't believe that you're calling it a bold move to go to the light trucks and say there's going to be fuel economy increase by 1.8 miles per gallon over 4 years, when everyone knows the technology is so far ahead of you. And I think one of the reasons we're all suffering here from low ratings in the Congress and in this Administration, abysmal ratings, is because people are smart, and they see what they're paying, and they know we've done nothing. And now you're asking us for more authority. So—what? You can do 1.8 miles per gallon over 6 years? Four years? And I have to say, when I look at what you use for your cost-benefit ratio, it's amazing, you left out the entire area of greenhouse gases, and didn't even put it in as a benefit, what we could benefit from. You say we pull a number out of the air? Well, you ignored the air, even though you were told to take a look at it. You had people who wrote you and said, "It's very important to include the benefits on air quality," and that those benefits could be as great as $50 billion by 2020, yet those benefits were ignored in NHTSA's final rule—in effect, really putting a thumb on the scale on the side of lower standards.

So, the other thing is, you've got the price of oil fluctuating. It's a moving target. Now, when you came up with this, what was the price of oil then, when you came up with your 1.8 improvement? What was the price of oil then?

Secretary MINETA. I would assume it was about $1.80.

Senator BOXER. All right. So, now you have a situation where the cost——

Secretary MINETA. I——

Senator BOXER.—is so much——

Secretary MINETA. I don't recall the exact time, but—Jackie, maybe——

Ms. GLASSMAN. When we do the rulemaking, we use the long-term price of oil that is put out by the Department of Energy's——

Senator BOXER. And what was it?

Ms. GLASSMAN.—EIA. For the——

Senator BOXER. What was it?

Ms. GLASSMAN.—NPRM, it was $1.58. For the final rule, it went up to $2. And they are looking at the price of oil over the long term——

Senator BOXER. All right. Well——

Ms. GLASSMAN.—and not at——

Senator BOXER.—may I say——

Ms. GLASSMAN.—today.

Senator BOXER.—something here? This proves the point, that, you know, you relied on information that has proven to be false. You should go back—based on the price of oil. I don't think any-

one's saying, now, that the price of gas at the pump is going to go to $1.50. If you can find someone, that would be swell. Now, maybe there are people out there. But, if anything, we're looking at higher prices. So, you should go back with this abysmal——

Secretary MINETA. Senator, I think——

Senator BOXER.—increase.

Secretary MINETA. But, Senator, if I might say, what we do is like taking a picture at a certain point, and we take a picture, and that camera reflects what is being taken at the time. And so, at the time——

Senator BOXER. Fine, then take another picture. Throw out the camera, get a new one, go get a picture. Go take a picture of the oil prices and the——

Secretary MINETA. Senator——

Senator BOXER.—gas prices in California—some stations, 4 bucks a gallon——

Secretary MINETA. I——

Senator BOXER.—and then make a case for a 1.8 abysmal increase in fuel economy over 4 years. It just doesn't fly with the American people. They're smarter than that, Norm.

Secretary MINETA. I understand that, Senator. But under the rules, we have to give notice to the manufacturers 18 months ahead of the model year, so——

Senator BOXER. Ah, I——

Secretary MINETA.—I understand that great——

Senator BOXER. Well, go back—

Secretary MINETA.—prices have gone up to $3.57, whatever they are today. But——

Senator BOXER. I need to take back my time——

Secretary MINETA. Absolutely.

Senator BOXER.—because I don't have much. And I'm trying to make the point here that, as Maria Cantwell said, we're in a crisis. Your own Administration says that. This is not the time for business as usual. You might have to go back. Whoa, what a shock. You might have to go back. There is a crisis. You've come up with a number here that makes no sense. You've ignored the new technologies. I mean, you think you're bold? Then I'm sure you think that Ford, which is producing SUVs—part of the—light truck category, that get 36 miles per gallon, they're revolutionary. You are so far behind on what's even happening in the marketplace.

And I guess my question is—you're asking us to give you authority. You know what? If you had fought with us for better fuel economy, I'd have a different attitude about it, because I'm a little annoyed at this Congress. Democrats and Republicans haven't risen to the occasion on this. But where were you when various members of both parties had legislation? Olympia Snowe is one of them. Were you helping her? Were you helping us to get better fuel economy into the law? Did the Administration take a position on that when we were fighting to get higher fuel standards? Where were you?

Secretary MINETA. No, I'm sorry, I'm not familiar with the legislation. But we have not taken a position on other legislation that I can think of—

Senator BOXER. Well, if I might say, that's incorrect, according to this article. And you might want to debate it. And I will close with this and ask unanimous consent to put into the record this article from the *National Journal,* February 2, 2002, the time when colleagues—we were all working hard to get better fuel economy, "The President has consistently opposed increasing fuel economy standards for cars and SUVs. His national energy strategy, which was released in May, largely adopted in the House, pushes for greater oil and gas drilling that would provide few incentives for energy conservation."

[The information previously referred to follows:]

The *National Journal,* February 2, 2002

GAS MILEAGE: DEAL MAKER OR BREAKER?

By Margaret Kriz

Fifteen hundred members of the United Auto Workers descended on Washington this week for their union's annual legislative conference, thereby allowing the UAW to mount a massive in-person lobbying campaign aimed at persuading the Senate to protect the interests of U.S. automakers. As UAW members were swarming Capitol Hill, the majority staff of the Senate Commerce, Science, and Transportation Committee was attempting to hammer out an energy bill toughening fuel-efficiency standards for cars and SUVs.

The UAW fears that stiffening those requirements, formally known as corporate average fuel economy (CAFE) standards, would overburden U.S. car manufacturers who are already feeling the pinch of the national economic downturn. Ford Motor Co., for example, recently announced plans to lay off 35,000 workers and close five plants.

But the recession is not the only issue reshaping the energy debate, which shifted to the Senate after the House passed an energy bill last year. Environmental lobbyists say that national security fears triggered by September 11 are causing more lawmakers to look for ways to cut oil imports from the Middle East and other unstable regions. Even some Republicans who have long opposed toughening CAFE standards are considering that approach as a way to curb American gasoline consumption. U.S. oil imports "aren't just looked at as a vulnerability anymore," said David Hamilton, director of state and Federal policy at the Alliance to Save Energy. "Now they're a national threat."

At the same time, however, the energy debate has taken on strong new political overtones because Sen. John F. Kerry, D–Mass., who is a potential Democratic presidential contender, is forcefully attacking President Bush's pro-industry energy policies. Senate Majority Leader Thomas A. Daschle, D–S.D., is also trying to play the energy card against Bush.

The President has consistently opposed increasing fuel-economy standards for cars and SUVs. His national energy strategy, which was released in May and largely adopted by the House in August, pushes for greater oil and gas drilling and would provide few incentives for energy conservation. The House rejected higher CAFE standards. But many lobbyists and Congressional staff members say that White House control over the energy debate has been undercut by Enron Corp.'s growing financial problems and by the public's growing concerns about allegations that Vice President Dick Cheney allowed Enron and other energy industry giants to essentially dictate much of the Administration's energy strategy. In Congress, committee investigations into Enron's collapse have eaten up staff time and forced the Senate Commerce Committee to postpone a hearing on CAFE standards.

Despite growing support across party lines in the Senate for stricter efficiency standards, continued opposition by the auto industry and its Congressional supporters significantly reduces the odds that Congress will actually pass an energy package this year. Citing the CAFE dispute and standoffs over several other energy proposals, many industry lobbyists and Capitol Hill staffers give the legislation only a 50–50 chance of making it to the President's desk.

Environmentalists predict that opponents of higher CAFE standards are likely to try to block Senate passage by filibustering. Conservative Republican opponents of efficiency standards know they can count on the votes of Democratic Senators from Michigan and other Midwestern states where cars and car parts are manufactured.

Meanwhile, filibuster threats are also looming over the Republican proposal to allow drilling in Alaska's Arctic National Wildlife Refuge. Senators Kerry and Joe Lieberman, D–Conn., have vowed to block any energy bill that includes drilling there. Sen. Ted Stevens, R–Alaska, counters that he will filibuster any bill that doesn't allow drilling in the refuge.

Even if the Senate passes legislation that includes increased CAFE standards but bars drilling in the Alaska refuge, the energy package would face tough going in a House-Senate conference committee. After all, the House energy package excludes fuel-efficiency standards and gives a green light to the Alaskan drilling provision.

"You'd have a very round peg coming out of the Senate trying to fit into a very square hole in the House," said Daniel F. Becker, director of the Sierra Club's global-warming and energy program. "It would be a real challenge to make the two fit."

Currently, automakers are required to meet an average efficiency standard of 27.5 miles per gallon for all the new cars they sell in the United States and 20.7 mpg for light trucks. The latter category includes SUVs, which now constitute half of the passenger vehicles sold in the United States. U.S. auto companies regularly fail to meet the CAFE standards, while American Honda Motor Co. and Toyota Motor Co. usually exceed the fuel mandates because they sell mostly small cars and are already using more efficient technologies. Because of opposition from Detroit, CAFE standard haven't been increased since the 1980s.

Lobbyists close to the Senate Commerce Committee's negotiations say that Democrats recently floated the idea of raising fuel-efficiency standards to between 30 mpg and 39 mpg over a 10- to 12-year span. A July 2001 National Academy of Sciences report said such increases are feasible using existing technology.

The Committee's present draft rejects a UAW fuel-efficiency plan under which all car makers would be required to increase their fleet's efficiency by the same percentage. That approach was opposed by committee Republicans as unfair to Honda and Toyota, which already exceed current CAFE requirements.

The UAW argues that Congress should give more weight to the needs of the U.S. car companies, which employ UAW members, than to those of Honda and Toyota, which run non-union shops. "It's important that these standards are economically feasible. And by that we mean something that doesn't cause economic hardship," said Alan Reuther, Legislative Director of the UAW.

Honda favors an across-the-board increase in the CAFE standards. Ford, General Motors Corp., DaimlerChrysler Corp., and Toyota are part of an industry alliance that opposes any increase in the fuel-efficiency standards. The U.S. automakers assert that instead of hiking CAFE standards, which would force car companies to invest more in modernizing the current generation of internal combustion engines, Congress should fund more-futuristic research projects, such as the Bush Administration's hydrogen-powered fuel-cell car project, which was announced by Energy Secretary Spencer Abraham in early January at the Detroit auto show. But the industry's critics argue that although fuel cells may have long-term promise, they can do nothing to immediately lessen the Nation's growing appetite for oil.

The Big Three U.S. automakers now argue that fuel standards should be set by the Transportation Department's National Highway Traffic Safety Administration. However, during the Clinton Administration, they successfully lobbied Congress to block funding that would have allowed the NHTSA to draft new efficiency standards.

Under Bush, NHTSA has been reluctant to crack down on the auto industry. The Administration recently announced that it would not raise the fuel-efficiency requirements for SUVs and other light trucks built in 2004. But Administration officials have hinted that they might be willing to raise the standards for those made in 2005.

Meanwhile, other Administration officials—notably John Graham, who heads the Office of Management and Budget's powerful Office of Information and Regulatory Affairs—have suggested overhauling the CAFE standards to allow automakers to trade fuel-efficiency "credits," a controversial move that would require Congressional approval.

Energy legislation became a top priority for Washington early in Bush's first year, when he called for a national energy strategy to help solve California's electricity crisis. Cheney's energy task force developed a largely supply-side national energy strategy, which recommended increasing U.S. oil and natural-gas drilling throughout the United States, including in the Alaska wildlife refuge. The measure rejected tougher CAFE standards but called for more reliance on nuclear power. In August, the Republican-controlled House adopted the Administration's energy package and added $34 billion in tax benefits—$27 billion for the coal, oil, natural gas, and nuclear power industries, and the other $7 billion earmarked for energy-efficiency and conservation programs.

The Democratic-controlled Senate has started from scratch in developing its national energy strategy. Released on December 5 by Daschle and Senate Energy and Natural Resources Committee Chairman Jeff Bingaman, D–NM, that bill would provide incentives for building a natural-gas pipeline from northern Alaska to the lower 48 states but would not allow oil development in the Alaskan wildlife refuge. It would give the Federal Energy Regulatory Commission more power to streamline state electricity deregulation and would push the White House to develop a plan for curbing emissions of the greenhouse gases linked to global warming.

Daschle has promised to bring energy legislation to the Senate floor before the Senate break that begins on February 18. (The CAFE provision, however, is being handled separately by the Senate Commerce Committee and will be added to the Daschle package.) Daschle's bill would also include tax breaks for industry but would provide more funds than the House wants for alternative energy and energy-efficiency projects. The Daschle tax breaks would likely total $10 billion to $15 billion. Like the CAFE provision, the tax breaks are set to be added to the energy package on the Senate floor.

Supporters of the fuel-efficiency standards argue that increasing them is one of the only ways of reducing U.S. gasoline use. "CAFE has been the single most effective energy policy this Nation has ever had in saving gasoline," said Hal Harvey, president of the Energy Foundation, which supports renewable energy projects. "There is literally no other policy that the United States can enact that would have remotely the same impact as CAFE in the next decade or two, except possibly [steep] European-level gasoline taxes. And the political prospects of a gas tax are zero."

The prospects of ratcheting up CAFE standards this year are not zero. In fact, they are rising, but still are not high.

Secretary MINETA. Well, then, you know, on that count, let me say that in 2001, I wrote a letter to Congress asking to be given the authority to raise the fuel standards.

Senator BOXER. That's not my question. My question——

Secretary MINETA. You're asking——

Senator BOXER.—is, Did you——

Secretary MINETA.—whether or not——

Senator BOXER. No. I said, Did you help us or hurt us when we, in the Congress, were trying to raise fuel economy standards? Did you weigh in on the side of those of us who were in favor of the legislation? The—

Secretary MINETA. At the——

Senator BOXER.—answer is no.

Secretary MINETA.—at the time, I did not.

Senator BOXER. You did not. You opposed it. Not you, personally—

Secretary MINETA. I didn't oppose it.

Senator BOXER. The President——

Secretary MINETA. I did——

Senator BOXER.—opposed it.

Secretary MINETA.—not oppose it.

Senator BOXER. I'm not talking about you.

Secretary MINETA. No, you asked me if I did.

Senator BOXER. The Administration. I'm meaning the Administration, not you, personally. According to this article, the President consistently opposed it.

Secretary MINETA. I think on a single-number basis, we have always, I guess, opposed.

Senator BOXER. Thank you.

Thank you, Mr. Chairman.

Senator LOTT. On our early bird rule, I believe, Senator Pryor, you would go next, and then Senator Snowe.

So, Senator Pryor?

Senator PRYOR. Mr. Chairman, I think that Senator Snowe was here before me. Senator Snowe, weren't you here?

Senator SNOWE. Go ahead.

Senator PRYOR. Are you sure? OK.

STATEMENT OF HON. MARK PRYOR,
U.S. SENATOR FROM ARKANSAS

Senator PRYOR. Thank you, Mr. Chairman.

Let me ask, if I may, Mr. Secretary—I know that some of the studies that we're looking at now, they've talked about recalculating CAFE. I think CAFE's been around since 1975. Some of these studies that we're referring to in this hearing and in other contexts are—go back to 2002, 4 years ago. Why are we just now coming to the point of you coming in and asking for a change of approach with CAFE?

Secretary MINETA. Well, what prompted this latest round is Senator Frist's bill—I believe it was introduced a week ago last Wednesday—requesting—or authorizing me to go ahead and increase the CAFE standard. And my response, when he dropped that bill in, was to say that I would want to have not only the authority to raise the CAFE standard, but to reform the structure of the program——

Senator PRYOR. OK. Let me ask——

Secretary MINETA.—for private passenger cars.

Senator PRYOR. Right. Let me ask, on that, if I may, so I can be very clear on this and make sure I completely understand this. What you're asking for us to do is to give the Administration, the Department of Transportation, total discretion in rewriting the CAFE standards and the goals and the targets? Is that what you're asking for?

Secretary MINETA. Well, it would still be subject to review.

Senator PRYOR. Review by?

Secretary MINETA. The Congress.

Senator PRYOR. OK.

Secretary MINETA. And, again, it would go through our normal rulemaking process, which would make it available for comment by——

Senator PRYOR. The public——

Secretary MINETA.—the public.

Senator PRYOR.—whoever that may be. But you do want total discretion, in effect. You want discretion in order to rework CAFE the way you want to do it.

Secretary MINETA. I—yes, I would say total discretion. But, that's still subject to review.

Senator PRYOR. What about if Congress had a requirement in there that actually, as you promulgate new CAFE standards, that you actually increase it by a minimum amount? I mean, let's just pick a—figure out there—1 mile per gallon per vehicle, or something minimum in every category. Would that be something you'd object to?

Secretary MINETA. Well, I suppose it would depend upon what the standard would be. If it were 1 mile per gallon, I would not have any objections to it. I think if I were given the authority to

revise it with the requirement that it be set at 40 miles per gallon, I think—because, again, you know, we're guided by what is in statute and by the National Academy of Sciences.

Senator PRYOR. All right, let me ask——

Secretary MINETA. So——

Senator PRYOR. I don't want to interrupt——

Secretary MINETA. Yes.

Senator PRYOR.—but my time is short, so let me ask this. As I understand it, you've recently gone through, with light trucks, a new series of CAFE standards. And something you have there now is—I believe you called it a few moments ago—the continuous curve. So basically, it's a continuum of standards, depending on the vehicle, and it's very specific to width and length of the vehicle, the size of the vehicle, et cetera. And is that what you want to do for cars? Is that what you have in mind for passenger cars?

Secretary MINETA. That's correct.

Senator PRYOR. Would it be——

Secretary MINETA. Let me——

Senator PRYOR.—would it be very, very similar to the light trucks, maybe even identical to the approach you took in light trucks?

Secretary MINETA. I think it would be, but let me have Ms. Glassman expand on the answer.

Ms. GLASSMAN. Yes, sir, as the Secretary indicated, that would definitely be the starting point for the analysis. The idea would be to take our light-truck structure, apply it to passenger car data, and make sure that it applies appropriately to passenger cars, and make sure that we don't create any unintended consequences by doing that. But it would be, definitely, the starting point.

Senator PRYOR. OK. In regard to the light trucks, I know you talk about this continuous curve—how often will DOT or NHTSA—how often will you revisit recalibrating those standards? Do you do it annually, every 2 years, every 5 years? How often do you revisit those standards?

Secretary MINETA. For the present light-truck rule, we go out to 2011—I mean 20-——

Ms. GLASSMAN. Eleven.

Secretary MINETA.—2011. So——

Senator PRYOR. Right. I understand that. But then, are you now starting the process again to go out beyond 2011, or to maybe even making some adjustment in 2010, 2011, you know, and that kind of thing?

Secretary MINETA. I don't believe we are. But let me ask Ms. Glassman——

Ms. GLASSMAN. Not——

Secretary MINETA.—whether——

Ms. GLASSMAN.—historically, CAFE standards were set annually. Beginning in 2003, we started to set standards in 3-year timeframes. So, we put out a rule in 2003 for light trucks applicable to model years 2005, 2006, and 2007. And in this latest rule, we approached 4 years. We would need a rule out, by 2010, beginning to cover 2012, and, in all likelihood, that would again be a multiyear rule.

Senator PRYOR. Mr. Chairman, I'm out of time. Thank you.

Senator LOTT. Senator Snowe?

STATEMENT OF HON. OLYMPIA J. SNOWE,
U.S. SENATOR FROM MAINE

Senator SNOWE. Thank you, Mr. Chairman. And thank you for holding this hearing on this critically important topic.

And I want to welcome you, Mr. Secretary. Obviously, I think you sense a great deal of frustration, because we're at a point where we cannot grapple with this issue in an aggressive way. I think America can do better than what we're doing right now in fuel economy standards. It's one that we have struggled with. Frankly, Congress hasn't been any better on this issue than the Administration. But we're at a point in this country where we really have to recognize that we have to address an increase in CAFE standards very vigorously and aggressively.

Frankly, an unfortunate minimalist approach has been embraced. I believe that just increasing the light truck category by a little more than a mile per gallon—for SUVs, for instance—is insufficient to where we stand in America today. We're depending on the most volatile regions of the world for our gasoline for the vehicles we drive. And other countries are ahead of us on establishing increases for greater fuel economies.

So, I just don't see why there is resistance and reluctance. I mean, the National Academy of Sciences, back in 2001, issued a report and said we could increase 15 miles per gallon in 15 years. And here we are today talking about how the Administration has done it once for the light-truck category, by increasing CAFE by a little more than a mile for the first time since 1985. For passenger cars, we haven't had any changes since 1975. So, there really hasn't been any effort to do that even though we recognize there are problems with a stagnant CAFE system. But shouldn't we be able to know now, with specificity, where we should go on this issue? Senator Boxer mentioned the initiatives that we have fought for. And, once again, I'll be introducing legislation with Senator Feinstein on this issue, creating a 10 in 10 bill—an increase of 10 miles in 10 years for the overall average for the fleet, including passenger cars, light trucks, and SUVs. This is something we ought to be able to do. We ought to be inventive. We're at a point in time where we have arrived at a real juncture. And I think it requires leadership on both of our parts, the Administration, as well as the U.S. Congress, in achieving that. We should go hand in hand. There should be no question about that.

I am concerned because I think the real issue here is that we're going to relinquish this authority, and in return, we're just going to get a minimal approach rather than a very aggressive one. We need to be far more far-reaching in increasing CAFE standards than we are today.

We're not hearing any time lines from your DOT. We're not hearing how much the Administration wants to increase standards. We're not hearing anything. And here we are in the midst of an energy crisis, frankly. This is certainly abundantly clear. And we don't know what's ahead of us in the months to come. We're back to the heating oil costs concerns from last January in considering

the winter months to come. The prospects don't look very bright at this point and I have great concerns.

So, we ought to be doing all we can about oil savings and reduced costs. And I don't hear that we are. And that's the issue. We could really fix this. We have the technology. We have the wherewithal. We have the knowhow. It will require leadership, including the White House and here in the U.S. Congress to get it done. And that's why I am reluctant to abdicate the authority for CAFE standards for passenger cars, because I don't think increases are going to happen. Look at where we stand today. NHTSA has increased CAFE for SUVs a little more than one mile per gallon, so if we give NHTSA authority over passenger cars as well, we totally transfer—we relinquish that authority, so then where are we?

Secretary MINETA. Well, first of all, there's no question that there's an urgency about the issue. I guess my problem is that establishing the CAFE standard is really part of the long-term issue involving fuel. It doesn't have an immediate impact on the price of gasoline at the pump. Fuel efficiency will be able to conserve fuel, but it's not one that, again, impacts on fuel costs or conservation immediately. It's one that has impact over time. As I said, the urgency is there to get it done, but, in terms of its impact, will not be immediate.

Now, in terms of the stringency of the standard, again, I guess we're really being driven by the statutory requirements, in terms of impact, again, on safety, jobs—and so, that's why to me, it's much more difficult than to just establish some mile-per-gallon standard and set that as a goal to attain without going through the studies that NHTSA has to go through in order to come to that conclusion. I just feel that we have to allow the comment period, to be able to allow NHTSA the ability to take into consideration product mix, impact on safety, the ability to conserve fuel, and to save lives.

Senator SNOWE. Well, a lot of the issues that you raise have been issues ever thus. I mean, it's always been that way. It's always been the case. And I can't believe, in America today, in the 21st century, that we cannot reconcile ourselves as to what the solutions are. The National Academy of Sciences said it back in 2001, and we know we have the capabilities to address all these competing interests for these issues. And, frankly, we know there will be no immediate impact on the price of gasoline. But, I hesitate to even think about where we would be today if we had begun to implement a very aggressive schedule for CAFE increases back in 2001.

I guess the point here is that it would send a very strong message, and particularly to the transportation sector that has imposed tremendous demands on our consumption of imported oil. That is a huge issue, and that's what we need to address effectively.

Secretary MINETA. And probably the two questions I ask are, one, relating to stringency, and the other in terms of timing. And, again, in terms of timing, we're constricted by law. The law says we have to give at least 18 months notice to the manufacturers. But for us to give notice to the manufacturers, it takes us about a minimum of a year. And as Jackie has indicated, a minimum, they'd be hardpressed to come up with a major rule on CAFE standards.

Senator SNOWE. Thank you, Mr. Chairman.

Thank you, Mr. Secretary.

Senator LOTT. All right.

Senator Dorgan, if you'd bear with us just 1 second, we do have a very good panel that we want to hear from this morning, but Senator Boxer had one last question would like——

Senator BOXER. Yes.

Senator LOTT. OK, would you like to do that right quick now, and then we'll go to Senator Dorgan? All right, good.

Senator BOXER. Mr. Secretary, the Federal Government purchases 58,000 new vehicles for the Federal fleet every year. Would you support a piece of legislation that says they should buy, where feasible and where it makes sense, the most fuel-efficient vehicles they can, to set a standard for the rest of the country? Would you support that concept? As an individual.

Secretary MINETA. Yes.

Senator BOXER. I know you can't——

Secretary MINETA. Yes.

Senator BOXER.—you have to check with the other people, but I'm asking you, personally, if that would make sense to you.

Secretary MINETA. Sure, that sounds——

Senator BOXER. Good. Well, I have such a bill. So, I'll be calling you.

[Laughter.]

Senator BOXER. And the only other point I'd make is, I'd say, go back and redo your cost-benefit ratio, because it's way off the mark. Gas is higher. We can give tax breaks to people who buy these fuel-efficient cars. And you should include the greenhouse gas benefits from a better fuel economy.

Thank you.

Senator LOTT. Senator Dorgan, would you like to make a brief——

Senator DORGAN. Well, Mr.——

Senator LOTT.—statement or——

STATEMENT OF HON. BYRON L. DORGAN,
U.S. SENATOR FROM NORTH DAKOTA

Senator DORGAN.—Mr. Chairman, first let me apologize. I know—I've been elsewhere, and I've been delayed. I don't want to take much time. But let me just, if I might, so that you can get the second panel up, ask just one or two questions of Secretary Mineta.

I have not been a big fan of CAFE standards. I've always said, if the issue on energy is the debate between CAFE and ANWR, we lose, because we have to be bolder and much more decisive on a range of issues—hydrogen fuel cells in the future, and so on. But I—you know, I looked at a car the other day that was 10 years newer—a new car—than the previous same model, and exactly the same rated mileage. I mean, it, on the sticker, said—you know, you get the same mileage. Now, the question is, Why, in 10 years, has nothing changed with respect to that car? I don't understand it. So, I've—my own view is, I don't think Congress has much choice but to be much bolder, much more aggressive on CAFE standards and other issues.

And I guess my question for you is, we've had a number of iterations—I think Senator Cantwell probably asked about this—of how many barrels of oil we're going to save by a certain time to establish goals. You know, there's this old saying, "If you don't care where you are, you're never going to be lost." So, you set a goal. And if you set a goal, then you aspire to reach that goal. What is your goal? What is our goal? What's the Administration's goal at this point with respect to efficiency of the vehicle fleet? What is the goal? Do we have a goal?

Secretary MINETA. I'm not sure that I can give you an answer in terms of miles per gallon.

Senator DORGAN. Well, then savings—saving the number of barrels of oil by a certain time.

Secretary MINETA. Well, we don't start with, let's say, saving 3 million barrels a day, and then come up with the miles per gallon, because, again, in terms of determining what the miles per gallon should be under CAFE, we look at the product mix of what the manufacturers will be building in a given model year. And maybe I can't explain it as well, but maybe I can have Ms. Glassman explain it in terms of the process we go through. As I said, if someone were to say, "We've just come up with a rule that comes over 37 miles per gallon," to me that would be ready, fire, aim——

Senator DORGAN. Yes, but—

Secretary MINETA.—because I can't come to a conclusion first on the miles per gallon or the fuel saved prior to making the determination through the computations of a rulemaking as to what the miles per gallon would be.

Senator DORGAN. But, Mr. Secretary, that reminds me of a bumper sticker, "Onward through the fog." You know, the fog here is the uncertainty of what our goal is. It seems—I just disagree completely with the notion that you can't set a goal and then manage, with respect to policy, public policy, to how you achieve that goal, whether it's incentives, whether it's mandates, whether—no matter what it is. You've got to have a goal. You've got to aspire to be someplace. And the question I'm asking is, What's the goal with respect to vehicle efficiency? And the reason I ask this question, Mr. Chairman—as I understand it, the Chinese now have about 20 million cars. By the year 2020, they're going to have 120 million vehicles. So, we're going to add 100 million vehicles to the vehicle fleet, just with China alone. And we suck 84 million barrels out of this planet every day. We use one-fourth of it in this country. We've got huge problems. And I'm just trying to figure out, What's our goal? And the reason I use vehicles as the catalyst here is, my first car was a 1924 Model T Ford that I rehabilitated and sold when I was a little kid. I put gas in the 1924 Model T exactly the same way I put gasoline in a 2006 Ford. Nothing has changed. Everything else about the car has changed, but you still stick the hose in the tank, and you're still pumping petroleum. And I know you can't give me the answer at the moment, but I'm telling you, I think the Administration, and I think the Congress, has to set goals, establish goals, then develop the policy to meet those goals.

Senator LOTT. Well, thank you very much, Senator Dorgan.

Thank you, Secretary Mineta.

We've got a very good panel now. We'd like to ask this panel to take their seats as quickly as possible. It includes Fred Webber, President, Alliance of Automobile Manufacturers, of Washington, D.C.; Mr. John Cabaniss, Director of Environment and Energy, Association of International Automobile Manufacturers, from Arlington; the Honorable Philip R. Sharp, former colleague from the House of Representatives, now President, Resources for the Future; Ms. Joan Claybrook, President, Public Citizen, Washington, D.C.; Mr. David Friedman, Senior Analyst, Clean Vehicle Program, Union of Concerned Scientists, of Washington, D.C.; and Mr. Alan Reuther, Legislative Director, International Union, United Automobile, Aerospace, and Agriculture Implement Workers of America.

I'd like to ask this panel, if you would submit your full statement for the record. It will be included in its entirety. Then if you could sum up your statement, hopefully limiting it to 3 minutes—Senators, we couldn't do that, probably, but we'd ask you to challenge yourself to try to keep it as brief as possible, because we do have an excellent panel. We'd like to get your basic point of view and have a little time left for, hopefully, some questions and attempted answers.

Senator DORGAN. Mr. Chairman, can I have my opening statement put in the record?

Senator LOTT. Your statement will be included in the record at the beginning of the hearing.

Mr. Webber, let's begin with you.

STATEMENT OF FREDERICK L. WEBBER, PRESIDENT AND CEO, ALLIANCE OF AUTOMOBILE MANUFACTURERS

Mr. WEBBER. Well, thank you, Mr. Chairman. Good morning. Thank you for giving me this opportunity—push it again. How is that working? OK.

Senator LOTT. Pull it up a little closer, Fred.

Mr. WEBBER. Thanks.

As you know, we represent—the Alliance represents nine automobile manufacturers. We share the concerns of this panel, of our customers, of the Congress, writ large, about gasoline prices, certainly energy security, and we all need to take steps together to solve the problem, to solve the challenge.

There's a great story out there in America today that's not being told, and we're going to start telling it ourselves, and that has to do with advanced technology. I know the focus is on CAFE and the authority the Secretary's looking for to apply the truck rule to automobiles. But, as he said, it's not a quick fix. It's not going to solve the immediate problem or the immediate challenge. It's a long, laborious process. It takes time.

In the meantime, this exciting industry that I represent is moving rapidly toward advanced technology vehicles. We have over 40 in the marketplace today. We're going to have another 40 in the next year or so. And what's happened here is that, like safety—as you know, when safety became a competitive issue, all kinds of great things happened in the automobile industry, and today you and I drive trucks and cars that have never been safer. That's what's happening in the advanced technology arena. Advanced technology has become a competitive issue, and we're off to the

races. And our member companies and others are really striving hard to develop these advanced technology vehicles. We've made a lot of progress with E–85 engines that'll burn ethanol. We've made a tremendous amount of progress with diesel, clean diesel, biodiesel. We are looking down the road at hydrogen. We've got the Administration's support on that, and the Congress's support on that. This is the real story.

This is going to be the fix. This is going to enable us to reduce consumption of gasoline from foreign sources, or, I should say, oil. We're very excited about it. We're moving forthrightly. And we would ask that people recognize it, especially the Congress.

I want to say one other thing. In our car lots today we have over 100 different models of vehicles that get over 30 miles to the gallon. The consumer has a choice. That's been the objective all along in the history of the automobile industry. Soon the consumer will have greater choices as we move forward with advanced technology. I know many of you have interest in ethanol. We've got infrastructure challenges there, but I think they can be overcome.

So, again, this is an exciting time for our industry, perhaps a turning point, and we are going to continue the progress that we've made.

[The prepared statement of Mr. Webber follows:]

PREPARED STATEMENT OF FREDERICK L. WEBBER, PRESIDENT AND CEO, ALLIANCE OF AUTOMOBILE MANUFACTURERS

The Alliance of Automobile Manufacturers (Alliance) is a trade association of nine car and light truck manufacturers including BMW Group, DaimlerChrysler, Ford Motor Company, General Motors, Mazda, Mitsubishi Motors, Porsche, Toyota and Volkswagen. One out of every ten jobs in the U.S. is dependent on the automotive industry.

Alliance members share the concerns of our customers and the American public about high gasoline prices and support the President's policy of reducing our consumption of petroleum. Member companies have consistently improved the fuel efficiency of their products and continue to offer ever-increasing numbers of advanced technology vehicles—such as hybrids, clean diesels, alternative fuel vehicles, and others—that reduce the automotive sector's consumption of petroleum.

For example, since the 1970s, new vehicles have continued to become more fuel-efficient. EPA data demonstrate that fuel efficiency has increased steadily at nearly one to two percent per year on average from 1975 for both cars and light trucks. Passenger car fuel economy has more than doubled from 14.2 mpg in 1974 to 29.1 mpg in 2004 and light truck fuel economy has increased by 60 percent since 1974. But as we have noted on many previous occasions, the ultimate decisions about what vehicles are purchased and how they are driven belong to American consumers.

And while consumers value fuel economy, they also want many other attributes in today's vehicles, such as safety, passenger and cargo room, performance, towing and hauling capacity. Our challenge is to develop advanced technology vehicles that combine these attributes with improved fuel efficiency. Of particular focus is maintaining safety while improving fuel efficiency.

The auto industry leads the way when it comes to investing in research and development. Automakers are committed to being first to market with breakthrough technologies that can produce new generations of autos with advanced powertrains and fuels. Automakers are competing to bring these vehicles to market, as soon as the technology is feasible, affordable and meets consumer expectations. Each year many new advanced technology models are offered on dealer lots. In just five years, the Alliance has seen the number of these vehicles grow to more than 40 models on sale in dealer showrooms with an additional 35 models, that includes hybrids, clean diesels and alternative fuel vehicles in showrooms soon. In addition, vehicles using liquid hydrogen in internal combustion engines (ICE), fuel cells and electric vehicles are in development. Today, eight million advanced technology and alternative-fuel autos are on the road and automakers will continue to increase volumes and new

product offerings for years to come. This year more than one million advanced technology and flexible fuel vehicles will be sold. Automakers support incentives that can help put more of these highly fuel-efficient autos on the road.

The result of all of this work is that today's drivers are learning a new vocabulary. The following is a brief description of some of the exciting advanced technologies and alternative fuel vehicles being sold or currently in development.

Flexible Fuel Vehicles

An important provision of the Energy Policy Act of 2005 (EPACT 2005) is the increased promotion of renewable fuels in the transportation sector. Since 1996, auto manufacturers have been producing vehicles capable of using high concentration blends of ethanol including E–85. There will be more than six million of these E–85 capable vehicles on the road by the end of the year and nearly one million more are being added each year. If fuel were available for all of these E–85 capable vehicles to refuel using only E–85, the U.S. would be able to reduce its gasoline consumption by nearly three billion gallons per year.

EPACT 2005 will help in E–85 infrastructure development by raising the requirement for the use of ethanol and other renewable fuels to 7.5 billion gallons per year by 2012 and providing tax incentives aimed at making more E–85 pumps available to the driving public and helping to reduce reliance on oil imports.

Hybrid-Electric Vehicles

Hybrid-electric vehicles are being offered today and are already saving fuel. The number of these vehicles will increase substantially over the next several years. They offer significant improvements in fuel economy—up to 50 percent and reduced emissions. These vehicles utilize electric motors for propulsion, to reduce some of the burdens on the traditional ICE. Hybrid-Electrics capture usable energy through regenerative braking. It is estimated that by 2010, more than 50 hybrid nameplates will be available in North America with volumes approaching one million vehicles. Hybrid technology can also be applied to diesels, alternative fuel and fuel cell vehicles.

Advanced Lean-Burn Engines

Vehicles that are powered by clean advanced lean-burn technology such as lean burn gasoline engines and direct injection diesels offer greater fuel economy and better performance than conventional gasoline-powered engines. Diesel-powered vehicles are very popular in Europe—where environmental standards and economic incentives have been provided to enhance their appeal. These types of vehicles could provide fuel economy gains of up to 30 percent compared to conventional vehicles. In addition, most diesels are capable of running on good quality biodiesel blends of up to five percent (B5) and many are designed to use up to twenty percent or one hundred percent biodiesel fuel (B20 or B100).

Fuel Cells

From a vehicle perspective, hydrogen-powered fuel cells offer the greatest potential improvement in fuel efficiency and emissions reductions. They also create a great opportunity for eliminating dependency on petroleum. However, widespread commercialization of this technology is some years away.

Hydrogen Internal Combustion Engines

Another promising and enabling technology is hydrogen-powered ICEs. The concept of using hydrogen ICEs offers several advantages: near-zero emissions, maintaining the utility, flexibility, and driving dynamic of today's automobile, assisting in the development of hydrogen storage technology, and developing hydrogen distribution channels and helping to promote hydrogen refueling infrastructure.

All of these advanced technologies and alternative fuel vehicles will help the U.S. address concerns about its over-reliance on imported oil. But they will take time to be effective. Tomorrow's transportation needs will be met by a diverse collection of technologies each offering drivers a unique set of attributes to help move their families down the road.

For its part, the auto industry is committed to advancing the state of technology and bringing new vehicles using these technologies to the market as quickly as possible. Competition among automakers will drive this process far better and with fewer disruptions to the marketplace than any regulations that can be adopted. Furthermore, stimulating consumer demand can help accelerate this process. Tax credit provisions enacted as part of EPACT 2005 have helped to spur the purchase of these highly fuel-efficient vehicles.

Today, automakers are providing consumers with a wide range of fuel-efficient choices, but when gasoline prices rise, not all consumers are in a position to pur-

chase the highly fuel-efficient models on sale today. There are over 200 million vehicles on U.S. roads, and the quickest way to reduce gasoline usage is through conservation. There are many simple, easy gas-saving tips for consumers. American drivers can save gasoline immediately by keeping their engines tuned and their tires properly inflated. Smooth accelerations save gas, along with closing windows at higher speeds. The U.S. Department of Energy provides excellent gas-saving tips to drivers, and we urge the government to highlight this information as the summer driving season begins. In addition, there are opportunities for infrastructure improvement such as improved traffic light timing that can help reduce fuel consumption.

Corporate Average Fuel Economy (CAFE)

For over 30 years, the CAFE program has been in place to provide fuel economy requirements as to what each automaker's fleet of passenger cars and light trucks must achieve. While vehicle fuel-efficiency has improved, vehicles miles traveled has increased an average of about 1.7 percent per year for the past 30 years with a net result of little impact on energy conservation. Currently, CAFE requires each automaker to meet an average fuel economy level of 27.5 mpg for all new passenger cars that it sells each year. For light trucks, NHTSA recently announced an increase in the CAFE standards for the 2008–2011 model years, marking seven straight years of fuel economy increases (from MYs 2005–2011) and an increase of nearly 20 percent over that period. Meeting these higher fuel economy standards will be a challenge, even with all the new fuel-efficient technologies that manufacturers are placing in vehicles today.

When setting new standards, NHTSA must consider many elements including technological feasibility, economic practicability, the need of the U.S. to conserve energy and the effect of other motor vehicle standards, such as safety and emissions on fuel economy. It is in the best interest of the public that we maintain a balance between improved fuel economy, highway safety and employment.

While the law holds manufacturers responsible for meeting CAFE standards, it is important to recognize that in reality, consumer purchases actually determine whether a manufacturer meets, exceeds, or falls short of the standards in any given year. Because of this, CAFE compliance depends not only on what products are offered but also on what products consumers purchase.

Proposed Changes in the Law

The Administration has requested new authority to permit reform of the passenger car CAFE program. With the ink barely dry on the recent light truck rule and no actual experience with the truck reform proposal, it may be a bit premature to think of locking in this new system for passenger cars at this time. Inclusion of some broad guidance that CAFE reform, based on use of vehicle attributes and classes, may be of some value to the agency when it does consider increasing passenger car CAFE requirements.

The Alliance also believes that NHTSA should very carefully weigh the timing of any increases in passenger car standards in view of the current economic health of the industry. No one likes high gas prices, but increasing passenger car standards—which takes time to effect and then years to fully become phased into the overall fleet of vehicles on the road—should not be viewed as a panacea to combat rising fuel costs. Alliance members are only in the second year of seven years of increasingly stringent light truck standards. In addition, the passenger car fleet average already exceeds the current 27.5 mpg standard—driven by consumer choices of the many very fuel-efficient cars offered for sale.

If NHTSA is granted authority to reform the structure of the passenger car standards, the agency should administer the new authority in a nondiscriminatory manner among manufacturers.

The rulemaking for CAFE standards is a labor-intensive and resource-intensive process both for NHTSA and for the manufacturers. Therefore, NHTSA should have the authority to establish a standard that could remain in effect for more than one year, as long as the agency determined by rulemaking that the standard is "maximum feasible" for that multiyear period covered by the standard.

The discussion of passenger car CAFE policy has also raised two additional issues—credit trading and the so-called, two-fleet rule. Credit trading is intended to provide flexibility options for manufacturers as they pursue compliance with the CAFE program. Credit trading has been examined numerous times in the past without agreement as to its actual value. Department of Transportation recently considered adding credit trading to the light truck rule and decided not to do it.

As regards to the two-fleet rule, the CAFE statute requires separation of the domestically-manufactured and non-domestically-manufactured vehicles in the pas-

senger car fleet, with separate compliance required by each sub-fleet. The original policy justification for the two-fleet rule was to discourage manufacturers from shifting their production of smaller, more fuel efficient cars to foreign factories. Recognizing that a fleet-wide average structure for the fuel economy standards would effectively require manufacturers to include smaller, more fuel-efficient cars in their fleets, Congress wanted to avoid any inducement to increase the importation of foreign-produced cars. If there are any proposed changes to the two-fleet rule they should be carefully reviewed.

Conclusion

We believe the most effective approach to pursuing reductions in U.S. gasoline consumption is to expand the availability of alternative fuels such as ethanol and to help promote the sale of advanced technology and alternative fuel vehicles that are currently gaining traction in the market.

As previously stated, Alliance members are currently offering for sale more than one million of these advanced technology and alternative fuel autos, and more will be offered in the future. We are pleased that Congress passed consumer tax incentives for the purchase of some of these vehicles last year, and we urge Congress to focus on expanding the production, infrastructure and distribution network for alternative fuels. Getting more of the American-based renewable and biofuels into the market and available to consumers will displace much more gasoline than a new passenger car CAFE requirement.

However, if NHTSA does initiate a passenger car rulemaking, the Alliance and its members will work closely with the agency in its consideration and promulgation of a final rule. Setting CAFE standards is a complicated, rigorous and arduous process. NHTSA considered over 45,000 comments and spent countless man-years in the consideration of its light truck rule.

The automakers remain committed to populating America's roadways with the latest innovative vehicle technologies. Competition among the companies will drive much of this innovation. And the changing needs and wants of American consumers also play a huge role in driving automaker decisions.

Senator LOTT. Thank you very much, Mr. Webber.

Mr. Cabaniss?

STATEMENT OF JOHN M. CABANISS, JR., DIRECTOR, ENVIRONMENT AND ENERGY, ASSOCIATION OF INTERNATIONAL AUTOMOBILE MANUFACTURERS, INC.

Mr. CABANISS. Good morning, Mr. Chairman.

I represent the Association of International Automobile Manufacturers. We have 14 automakers that account for over 40 percent of the cars sold here in the United States every year. We support Secretary Mineta's request for authority to restructure the program. We also stress the importance of providing adequate lead time to comply with the standards, encourage additional market-based incentives to spur the demand for those vehicles, and, also, the elimination of the so-called two-fleet rule.

Senator LOTT. Do you want to pull that microphone a little closer, please.

Mr. CABANISS. Certainly. Sorry.

Senator LOTT. The elimination of?

Mr. CABANISS. The two-fleet rule.

We believe there are three guiding principles that Congress should follow when it addresses CAFE. First and foremost, any approach must be competitively neutral. Second, the requirements must be technologically feasible and economically practical. And, third, we need that lead time that I mentioned.

Standards also should continue to be performance-based, not trying to pick winners and losers, and not specifying or favoring certain technologies over others. And those kinds of performance standards also allow manufacturers the flexibility that they need

to set their own research priorities, build on their strengths, and develop the products that meet consumer needs and demands.

We support DOT's request to move ahead, as they have already with the light trucks, to consider an attribute-based-type program. The light truck rule, as Secretary Mineta mentioned, is a good starting point. But we believe that, given that we don't have experience with that program yet, we would urge some caution be taken there, in terms of carefully looking at how it applies. But under no circumstances should DOT rely on using a company-specific uniform-percentage increase-type approach.

We believe that the incentives are very important, in terms of not just requiring that the vehicles be manufactured, but also creating extra demands for consumers to purchase them. Congress, of course, has considered various types of incentives in the past, and we support those, and we support working with you to develop even further ways to increase demand for these vehicles.

The auto industry is not the same today as it was 30 years ago. Since the time when the CAFE program was first established, the AIAM companies, our companies, have invested over $30 billion in U.S.-based manufacturing plants and research facilities. Combined, the international automobile manufacturers employ over 100,000 Americans and generate almost 2 million jobs in supplier and dealership facilities. And 60 percent of the cars and trucks that our members sell here in the United States are now manufactured right here in the United States. So, when we consider jobs, we need to consider the full landscape of the industry.

Thank you.

[The prepared statement of Mr. Cabaniss follows:]

PREPARED STATEMENT OF JOHN M. CABANISS, JR., DIRECTOR, ENVIRONMENT AND ENERGY, ASSOCIATION OF INTERNATIONAL AUTOMOBILE MANUFACTURERS, INC.

Good morning. My name is John Cabaniss, Director, Environment and Energy for the Association of International Automobile Manufacturers, Inc. (AIAM).

AIAM is a trade association representing 14 international motor vehicle manufacturers accounting for over 40 percent of passenger cars and over 20 percent of light trucks sold in the United States annually.[1] AIAM appreciates the opportunity to offer its views regarding the need to reform passenger automobile CAFE standards. AIAM supports Transportation Secretary Mineta's request for additional legal authority to revise the structure of the passenger car CAFE standards. In addition to addressing this issue, we would like to stress the importance of adequate lead-time in achieving compliance with any new standards, suggest that supplemental market-based incentives would strengthen a national effort to reduce fuel consumption, and recommend the elimination of the "two-fleet rule" requiring the separation of a manufacturer's import and domestic fleets.

AIAM members are important stakeholders in the debate over passenger car fuel economy standards, representing 44 percent of all sales in this market segment last year. In addition, AIAM member companies have for many years been leaders in offering fuel-efficient vehicles for the U.S. market. Historically, vehicles produced by our member companies have headed EPA's annual list of most fuel-efficient vehicles. Member companies have achieved this fuel-economy leadership to a significant degree by pioneering the introduction of advanced automotive technology into their vehicles. Our member companies continue to introduce a variety of advanced technology models, including hybrid electric vehicles, ethanol-capable flexible-fuel vehicles, hydrogen fuel cells, clean diesel, as well as advances in traditional gasoline vehicles.

[1] AIAM members include Aston Martin, Ferrari, Honda, Hyundai, Isuzu, Kia, Maserati, Mitsubishi, Nissan, Peugeot, Renault, Subaru, Suzuki and Toyota. AIAM also represents original equipment suppliers and other automotive-related trade associations.

AIAM believes that there are three guiding principles that Congress should follow when it addresses CAFE matters. First and foremost, when considering the form of the CAFE standards it is of the utmost importance that the structure or underlying approach is competitively neutral, and that all manufacturers are treated fairly and equitably under the standards system. Second, under any structure, the specific requirements of the standards must be technologically feasible and economically practicable. Third, it is absolutely essential that manufacturers are provided adequate lead-time to implement new standards.

In addition, standards should continue to establish performance requirements rather than specify or favor any particular technology. Reducing U.S. dependence on petroleum is a complex undertaking, and the greater the number of creative technologies that can be brought to bear, the better. In addition, performance standards allow manufacturers the flexibility to set their own research priorities based on their individual strengths and to develop the most effective and efficient approaches to meet consumer demand, while achieving the broader societal goals for which the standards are intended.

I. Reform of the Structure of the Passenger Car CAFE Standards

An April 28, 2006, White House Fact Sheet states that the Administration is requesting additional legal authority to enable DOT to reform the passenger car CAFE standards "consistent with the approach taken with the light truck rule issued March 29."[2] AIAM supports authorizing DOT to establish attribute-based class standards for passenger cars, as is currently authorized for light trucks. This approach would be consistent with the recommendations of the National Academy of Sciences and is generally consistent with the approach adopted by NHTSA in its recent light truck CAFE rulemaking. DOT should be given the flexibility to consider variations of the structure adopted in its light truck rule. Given our lack of experience with the new structure, it remains uncertain how the new structure will work in practice. Under no circumstances should the Department be authorized to adopt company standards based on past performance, such as uniform percentage increase (UPI) standards. We urge Congress to provide guidance to DOT by providing the underlying principles upon which the new standards must be based, including the three guiding principles discussed above.

Over the years, AIAM has vehemently opposed any effort to authorize fuel economy standards based on the UPI approach. Respected analysts have consistently criticized the UPI approach, including the National Academy of Sciences, in its 2001–2002 study, which states:

> The UPI system would impose higher burdens on those manufacturers who had already done the most to help reduce energy consumption. The peer-reviewed literature on environmental economics has consistently opposed this form of regulation. It is generally the most costly way to meet an environmental standard; it locks manufacturers into their relative positions, thus inhibiting competition; it rewards those who have been slow to comply with regulation; it punishes those who have done the most to help the environment; and it seems to convey a moral lesson that it is better to lag than to lead. In addition to fairness issues, the change would not eliminate the problems of the current CAFE system, but would create new ones. Implementation of such rules provides strong incentives for manufacturers to not exceed regulatory standards for fear that improvements will lead to tighter regulations. Thus, such rules tend to create beliefs counterproductive for longer-term goals.[3]

In addition to these shortcomings, the UPI approach would have the effect of locking manufacturers into their current model mix, leaving them potentially unable to meet changing consumer demands.

We also believe that standards levels should be established by DOT through rulemaking. The complex technical and economic analyses necessary to set standards are better accomplished as part of an agency rulemaking rather than through direct legislation. DOT has substantial resources available to perform the required technology and economic analyses required for standard setting, and the use of an open, transparent, rulemaking process is needed to assure that the interests of all parties are considered in reaching a decision on the standards.

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[2] See *http://www.whitehouse.gov/news/releases/2006/04/20060428-9.html*.

[3] "Effectiveness and Impact of Corporate Average Fuel Economy Standards," National Research Council, 2002, pages 92–93.

II. Lead-Time

The law provides that CAFE standards must be set at least 18 months prior to the start of the affected model year. However, the 18-month period is adequate to enable automakers to implement only the most minor of design changes. For more substantial changes, greater lead-time is necessary, not only to develop new technologies but also to deploy existing technologies into the fleet through normal product redesign cycles. It is instructive to note that the National Academy of Sciences projected the need for up to 15 years lead-time to meet significantly higher standards. It is also desirable to our planning efforts to have standards set for multiple years in a single rulemaking, as NHTSA did with the recent light truck rule. Automakers generally plan major vehicle redesigns on a 5 to 8 year cycle, with individual model changeovers staggered to allow the best use of limited engineering resources. Significant changes in fuel economy require a stable and predictable set of requirements that corresponds to this 5 to 8 year product cycle. We urge Congress and the Administration to consider the need for lead-time beyond the statutory minimum in order to implement new vehicle technology.

III. Market-Based Approaches to Facilitating Higher Levels of Fuel Economy

CAFE standards mandate the production of more fuel efficient vehicles but provide no incentive for consumers to purchase such vehicles. The most direct market signal to encourage consumers to demand fuel efficiency is an increase in the cost of driving. Recent record-high gasoline price increases encourage consumers to value fuel saving technologies. However, motorist interest in fuel savings often dims when fuel prices decline. Therefore, other types of incentives may be useful to maintain demand for fuel efficient vehicles when fuel prices are lower or to reinforce the market signal provided by high fuel prices. Such incentives include extending and expanding current tax credits and tax deductions for the purchase of fuel efficient and alternative fueled vehicles, access to preferential parking areas, and mandates for government fleet purchases. These and other incentives would further encourage manufacturers to develop and introduce advanced technologies by enhancing the market for vehicles that use such technologies. Advanced fuel-efficient technologies are frequently costly, particularly in their first years of introduction, and such incentives can facilitate the introduction of advanced technologies by helping to bridge the price differential between these vehicles and conventional vehicles. Congress has considered a variety of technology-based incentives in recent years to encourage consumers to purchase advanced technology vehicles. AIAM member companies have generally supported these incentives and support the President's call to lift the current manufacturer cap on tax credits for hybrids and diesels to allow more consumers to be eligible for the full tax credit. Ideally, we believe that such incentives should be performance-based and technology-neutral, *i.e.,* they should be designed to encourage the production and sale of fuel-efficient vehicles, regardless of the specific advanced technology selected by the manufacturer or where vehicles are manufactured.

AIAM supports new authority for credit trading under the CAFE program. Allowing credit trading would provide manufacturers with increased compliance flexibility and encourage fuel economy improvements. The 1992[4] and 2001[5] NAS CAFE committees suggested this approach. Allowing such trading would also enhance the overall efficiency of the CAFE system. We believe that the rulemaking should examine credit trading among manufacturers and between a manufacturer's passenger auto and light truck classes.

IV. Domestic/Import Separate Fleet Requirement

The current law requires dividing a manufacturer's passenger car fleet into domestic and import classes that must comply separately with fuel economy standards. There is no similar requirement for light trucks. This requirement was originally intended to encourage domestic production of smaller vehicles by eliminating any compliance benefit for U.S.-based manufacturers from simply importing foreign produced, fuel efficient vehicles. Supporters of the "two-fleet" rule argue that the rule prevents manufacturers from shutting down U.S. production facilities for smaller, fuel efficient vehicles. In our view, the current record-high fuel prices and growing demand for fuel efficient vehicles indicates there is a strong incentive for maintaining or increasing U.S. production of fuel efficient vehicles by all manufacturers.

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[4] "Automobile Fuel Economy, How Far Should We Go?", National Research Council, 1992, page 184.

[5] "Effectiveness and Impact of Corporate Average Fuel Economy (CAFE) Standards," National Research Council, 2002, page 114.

Moreover, the "two-fleet" provision has created the unintended consequence of providing a disincentive for foreign-based companies to increase the U.S. content of their vehicles to levels above 75 percent, since doing so would place the vehicles in a separate compliance fleet. This disincentive is real, not theoretical, and has cost U.S. jobs. There have even been cases where a company has decreased the U.S. content of certain domestic vehicles to a level below 75 percent to allow those vehicles to be averaged with the manufacturer's more efficient import fleet adversely impacting U.S. suppliers.

The 2001 National Academy of Sciences study of the CAFE program[6] states that "since the two-fleet rule increases costs to consumers, the committee believes it is no longer justifiable and should be eliminated." The 1992 NAS CAFE committee[7] concluded that the separate fleet requirement "has no obvious or necessary connection to the achievement of fuel economy" and encouraged Congress to consider its repeal. We strongly concur in these assessments.

V. Conclusion

The auto industry is not the same as 30 years ago when the CAFE program was established. Since that time AIAM members have invested over $33 billion in U.S.-based vehicle, engine and parts manufacturing plants, and research and development facilities and developed a production capacity of 3.7 million vehicles annually. Combined, international automakers directly employ 103,000 Americans and generate 1.7 million U.S. jobs in dealerships and supplier industries nationwide. Approximately 60 percent of all the cars and light trucks sold each year in the U.S. by international automakers are made in the United States.

Thank you.

Senator LOTT. Thank you very much.

Congressman Sharp, good to see you again.

STATEMENT OF HON. PHILIP R. SHARP, PRESIDENT, RESOURCES FOR THE FUTURE (RFF)

Mr. SHARP. Thank you very much, Mr. Chairman. Thank you for asking me to testify.

I'm here as president of Resources for the Future, but I must quickly say the institution takes no position on public policy issues, so these are my own remarks. They derive from my experience, since leaving Congress, on two panels: the National Academy of Sciences study that you folks have been referring to all morning, and the National Commission on Energy Policy, a private bipartisan effort to make some policy recommendations. What is important, I believe, is that both of these panels have recommended that we ought to significantly increase the CAFE standards in this country, the fuel economy standards. Both also recommended the system needed to be reformed.

Now, the reasons for taking action, some of which have been articulated this morning, are, first and foremost, our growing dependence on the global oil market, and the second, and very importantly, is the need to reduce the growth of carbon dioxide emissions here and around the world. Indeed, increasingly, many people believe that we are entering an era of the carbon-constrained economy, and it is very difficult to deal with transportation in that economy.

But, third, it's very important to recognize, over the last 30 years, as a number of you on the panel have been involved in these policy disputes, the fact that the world price of oil goes up, and it goes down. We do not know where it is headed now, and we misjudged where it was headed on any number of occasions over the

[6] *Id.,* pages 89–90.
[7] *Id.,* pages 183–184.

last 30 years. The result is that consumer interest is on again, off again; investor interest is on again, off again; government policy is on again, off again—in terms of fuel economy or in terms of alternative fuels. So, it's extremely important that the government have not a crash program, but a consistent program that helps to push our technology and push our marketplace.

Now, let me just briefly state that, the National Academy of Sciences, as has been alluded to, identified current technologies available that can be used now and could be cost-effectively put into the system, and are coming into the system.

But let me close by simply saying that CAFE has been an imperfect policy, no doubt about it, but it's been a very important one. It has been identified as up to almost 3 million barrels of oil per day we're not using that we would have been using today, had we not had this policy. But it is really important to understand that it's also not the be-all and end-all solution to transportation problems and fuel economy in this country. Indeed, many believe that if we don't have a sustained price of gasoline, meaning a sustained gasoline tax, we do not encourage efficient use of cars, nor the efficient purchase of cars.

Thank you very much, Mr. Chairman.

[The prepared statement of Mr. Sharp follows:]

PREPARED STATEMENT OF HON. PHILIP R. SHARP, PRESIDENT, RESOURCES FOR THE FUTURE (RFF)

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 that 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.

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 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* 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* at *www.energycommission.org.*)

Both the Academy committee and the Energy Commission recommended Federal action to improve fuel economy for the purpose of mitigating two major concerns: oil security and growing carbon dioxide (CO_2) 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 CO_2 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 other issues.

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, 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.

In the face of such uncertainty, many, including the bipartisan commission, have concluded 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 CO_2 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 our long-term national interests.

CAFE is currently getting a lot of attention because people are looking for immediate relief from high prices at the pump, but there is no fast or cheap way to escape the risks of oil dependence. Undoubtedly, one of the most 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 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 CAFE 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 the 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 Energy 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 are a political decision.

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" (see Appendix B).

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.

Possibilities for policy redesign were laid out before the House Committee on Energy and Commerce last week by my colleague, Dr. William Pizer (see Appendix C).

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 the attached 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, either as an alternative to CAFE or in conjunction with CAFE. The impact 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 alone. These experts, of course, are not subject to popular election.

Mr. Chairman, after 20 years of stalemate on fuel economy issues, we finally have a moment where change is possible. Let's do it!

APPENDIX A—EFFECTIVENESS AND IMPACT OF CORPORATE AVERAGE FUEL ECONOMY (CAFE) STANDARDS

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.[1] 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)

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[1] A 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.

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 after-treatment 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 in-

stance, 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,[2] 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

[2] Feebates are taxes on vehicles achieving less than the average fuel economy coupled *with rebates to vehicles achieving better than average fuel economy.*

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.

APPENDIX B—ENDING THE ENERGY STALEMATE: A BIPARTISAN STRATEGY TO MEET AMERICA'S ENERGY CHALLENGES

Policy Recommendations

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 light-duty 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 "game changing" 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*—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.

APPENDIX C—TESTIMONY ON CAFE PROGRAM REFORMS PREPARED BY WILLIAM A. PIZER

Thank you, Mr. Chairman, for the opportunity to offer testimony before the Committee about the possibility of reforming the Corporate Average Fuel Economy (CAFE) program, with particular reference to the recently introduced reforms for light trucks. Over the past decade, I have had the privilege of working on energy and environment issues for organizations as diverse as the President's Council of Economic Advisers and the National Commission on Energy Policy. Currently, I am a senior fellow at Resources for the Future (RFF), a 54-year-old research institution, headquartered here in Washington, D.C., which focuses on energy, environmental, and natural resource issues.

RFF is both independent and nonpartisan, and shares the results of its economic and policy analyses with members of both parties, environmental and business advocates, academics, members of the press, and interested citizens. RFF neither lobbies nor takes positions on specific legislative or regulatory proposals, although individual researchers are encouraged to express their individual opinions, which may differ from those of other RFF scholars, officers, and directors. I emphasize that the views I present today are mine alone.

Just a few weeks ago, the National Highway Traffic and Safety Administration (NHTSA) released a final CAFE rule for the years 2008–2011 that raises the standard from its 2007 level of 22.2 miles per gallon (mpg), to 22.5 mpg in 2008, 23.1 mpg in 2009, and 23.5 mpg in 2010. But what should be of more interest to this Committee are two major changes to the structure of the program included in the final rule. First, the rule differentiated standards across manufacturers based on the size of the vehicles they produce, and second, starting in 2011, the rule set these standards based on an explicit cost-benefit analysis. Previously, there was a single standard for all light-truck manufacturers and that standard was set, based on the ability of the least capable manufacturer. In addition to these major structural changes, the rule will also for the first time include medium-duty passenger vehicles in the CAFE program starting in 2011. With the inclusion of these heavier and naturally less fuel-efficient vehicles, the estimated average fuel economy will be 24.0 mpg in 2011.

At the time the light-truck rule was proposed last Fall, I offered my opinion—which I have appended to this statement—that the reforms were a clear move toward a more efficient system, and perhaps even an optimal one, given statutory constraints. I also indicated that, based on an analysis of the underlying data from the recent National Research Council (NRC) study, the 2011 fuel economy standard should be increased based on the recent, dramatic increase in forecasted oil price and, in turn, the dramatic increase in benefits from improved fuel economy. What I would like to do today is first review my previous comments on the design of the rule for light trucks and explain why they are equally relevant for cars. I will then discuss additional reforms possible in statute—the ability to trade CAFE credits across fleets, firms, and time, as well as a cost-limiting safety valve that were not possible in the light-truck rulemaking. I will briefly remark on the fact that dramatically higher oil prices did *not* lead to an noticeable increase in the 2011 fuel economy standard and finally offer a few reflections on the overall desirability of CAFE from an economist's perspective.

Light-Truck CAFE Before the Recent Reforms

To understand the recent reforms to the light-truck CAFE program, as well as the potential for further statutory reforms, it is useful to consider how "un-reformed" or traditional CAFE works. There is a single, one-size-fits-all fuel economy standard for light trucks that must be met, on average, by each manufacturer. That is, each manufacturer takes the fuel economy of each light-truck model they produce, and then averages those numbers weighted by production volume. That number must be at or above the mandated standard. If the manufacturer beats the standard, the manufacturer collects CAFE credits that can be used to make up any shortfall in the next three years. If the manufacturer misses the standard and does not have any credits, there is a penalty equal to $5.50 per 0.1 mpg per vehicle. The

penalty is routinely paid by European manufacturers, but has never been adopted by domestic or Asian manufacturers, who have voiced concern about the penalization notion surrounding the fee.

For light trucks, the level of the traditional standard is set with an eye toward achieving the maximum possible fuel economy, but with considerable deference given to the ability of each manufacturer to meet that standard. The National Highway Traffic Safety Administration (NHTSA) has typically tailored the standard to be economically practicable for the least capable vehicle manufacturer while also considering the Nation's need to conserve energy, technological feasibility, and the impact of other motor vehicle standards on fuel economy. The actual analysis is based on confidential manufacturer product plans, data, and modeling.

One consequence of the traditional approach is that the single standard for light trucks is tougher—that is, more expensive—for manufacturers with a full line that includes large trucks with lower fuel economy, and easier for manufacturers focused on small trucks with higher fuel economy. For example, Honda has consistently beaten the existing light-truck CAFE standard by 4–5 mpg, suggesting that it has had no effect on their production decisions, while the major domestic manufacturers that produce a broader range of trucks have hovered right at the standard, suggesting a real impact.

The Reformed CAFE Rule

The recently finalized rule for light trucks makes two major changes to the traditional approach. The first is a shift from a single light-truck standard for all manufacturers to differentiated standards for each manufacturer based on the size of the vehicles they produce. The second is a shift to setting the standard based on an explicit and careful cost-benefit analysis, involving the costs to manufacturers, the value of fuel savings, and other consequences of gasoline and vehicle usage.

Unlike the traditional CAFE rule for light trucks, the recently finalized rule differentiates standards for each manufacturer based on a continuous schedule of targets for different-sized vehicles. The size of the vehicle, or footprint, is defined by multiplying the track width (the distance between tires on the same axle) by the wheelbase (the distance between centerlines on each axle). In 2011, the fuel economy schedule ranges from 30.42 mpg for the smallest vehicle to 21.79 mpg for the largest vehicle (Table 4 in the Final Rule). Among manufacturers, this is forecast to result in a fleet standard ranging from 23.2 mpg for General Motors (GM) to 27.1 mpg for Suzuki (Table 13).

Differentiating manufacturers' standards based on the mix of large and small light trucks that they produce—so that Suzuki faces a higher standard than GM—has important distributional consequences. Unlike the traditional light-truck CAFE rule, in which the single standard was much harder for GM and other manufacturers of large trucks to meet, the reformed rule allocates the overall burden more evenly by shifting some of it away from manufacturers of large trucks and toward manufacturers of small trucks.

This distributional change will also lower the cost of a given improvement in fuel economy across all fleets (or increase the overall improvement in fuel economy for a given total cost). By seeking larger fuel savings from small truck manufacturers, who previously faced little or no CAFE incentive to improve fuel economy, opportunities exist to improve fuel economy that previously were not being captured. Some of these efficiency improvements are cheaper than the ones previously achieved through almost exclusive reliance on improvements among manufacturers of large trucks. That is, the program achieves lower cost and/or more fuel savings (estimated at 15–20 percent in the Regulatory Impact Analysis, Table VII–1).

There is a third, important effect associated with differentiating standards based on the size of vehicles: It substantially alters the incentives to downsize. Downsizing is one way a manufacturer could comply with the traditional light-truck CAFE rule. As noted, smaller trucks naturally have higher fuel economy. Instead of using technology to improve fuel economy, manufacturers could simply choose to make smaller trucks. While some might applaud a shift to smaller vehicles, this frequently raises concerns about safety.

By making the standard higher for smaller trucks, the incentive to downsize to comply with the reformed CAFE rule is reduced if not eliminated, thereby addressing these concerns about safety. Making smaller trucks does not help a manufacturer meet their standard—the natural improvement in fuel economy associated with the smaller vehicle is offset by the reformed CAFE's requirement that smaller vehicles achieve higher fuel economy.

The second major change in the reformed CAFE rule comes in 2011, when fuel economy will be set, based on maximizing net benefits from reduced petroleum consumption, including the reduced consequences of oil-supply disruptions, the reduced

market power of oil-exporting countries, and environmental concerns, as well as effects of fuel economy on congestion, accidents, and greater vehicle range. These benefits are weighed against the costs of installing new technologies to improve fuel economy. This sharply contrasts the previous approach, which focused on the ability of the least capable manufacturer—that is, the one making the largest trucks. In fact, with the shift to differentiated standards, the notion of a least capable manufacturer disappears; instead, each company faces a standard that is tailored to be as difficult as any other. This latter change represents an unambiguous move toward greater efficiency in the light-truck CAFE program. While the traditional approach highlighted factors that should be considered when setting the standard, it did not suggest how they ought to be balanced, somewhat ironically using cost-benefit analysis as part of the regulatory impact analysis *after* the standard was set. The proposed reforms put the cost-benefit analysis front and center, stipulating that those factors should be balanced based on the best available valuations. By definition, such an approach is the most efficient possible approach to setting CAFE standards once the structure of the program is determined.

Applying the Light-Truck Reforms to Passenger Cars

Both of the reforms adopted in the recent light-truck rule—differentiating manufacturers' standards based on their mix of large and small vehicles, as well as setting the standards based on careful cost-benefit analysis—provide similar opportunities to improve the passenger car CAFE program. Unlike the light-truck program, however, these changes must be made in statute. While NHTSA had the authority to differentiate manufacturers' standards and to shift to a cost-benefit approach for light trucks, the existing statute is much more specific for passenger cars.

As was the case for light trucks, differentiating the passenger car standard among manufacturers based on their mix of large and small cars provides three advantages. First, it creates a more equitable burden. Because large cars naturally have lower fuel economy than smaller cars, a single standard for all manufacturers would put a disproportionate burden on those who produce larger cars. In contrast, a differentiated standard would shift that burden toward small car manufacturers. Second, this shift in burden will also mean a shift from higher-cost improvements in large cars to lower-cost improvements in small cars. This will lower the cost of achieving a given overall level of fuel economy, or allow a greater improvement in overall fuel economy at a given total cost. Finally, by making the standard progressively higher for smaller cars, the incentive to downsize passenger cars is reduced if not eliminated. The natural fuel economy improvement associated with downsizing is now penalized by a higher standard. This addresses past concerns that CAFE produces smaller, less safe vehicles.

The use of a cost-benefit approach to set the passenger car standard would, by definition, create a program that maximized efficiency—that is, the net benefits to society—of the program, given the design (for example, differentiated standards and fleet averaging).

Going Beyond the Light-Truck Reforms

There are at least four areas where light-truck reform was limited by statute but where greater efficiency could be realized by changing the structure of the program. Three relate to simply giving manufacturers more flexibility to meet a given standard without affecting the outcome in terms of overall oil savings. The fourth addresses uncertainty about compliance costs, reducing the risk of high costs at the expense of possibly achieving lower oil savings.

The first of these further reforms would allow manufacturers to average fuel economy jointly over both cars and light-truck fleets. Currently, manufacturers must meet each standard separately, even though cheaper opportunities may exist in one fleet versus the other. From a national perspective, Congress should not care whether fuel savings are achieved in one fleet or the other. Allowing manufacturers to trade off cheaper improvements in one fleet against more expensive improvements in the other would lower overall costs without affecting oil savings.

Second, Congress could also allow credit trading among manufacturers. That is, when one manufacturer exceeds their standard, they earn credits that could then be sold to other manufacturers struggling to meet theirs. This reform reduces costs by shifting improvements to manufacturers with lower costs and away from manufacturers with higher costs. And like the first reform, this action has no effect on overall oil savings.

It is useful to note that historically there has been opposition to trading because it likely further exacerbates the disparity between manufacturers of large and small vehicles. That is, even though trading would generally benefit both buyers and sellers of CAFE credits, under traditional CAFE, it would tend to provide larger bene-

fits to sellers—manufacturers of small cars who can easily if not effortlessly exceed the standard. However, with size-based CAFE, the initial compliance burden is more evenly distributed among manufacturers of both large and small vehicles, erasing the likely larger benefit to manufacturers of small vehicles.

Third, Congress could allow companies who exceed the standard in one year to bank credits for the indefinite future. Banking not only leaves the total volume of reduced oil consumption unchanged, it moves the savings *forward* in time—that is, we see the effects of energy conservation sooner. Banking has easily been the most successful element of the acid rain trading program used by electric utilities to reduce sulfur dioxide emissions. In that case, firms reduced emissions by twice as much as the law required to create flexibility for future compliance. Currently, banking is allowed in the CAFE program—but for only up to three years, after which time the banked credits expire, thereby reducing the incentive to over-comply and to reduce oil consumption earlier. New legislation could remove this restriction.

Finally, Congress could create a safety valve, whereby manufacturers could opt to pay a specified fee if compliance costs end up being unexpectedly high. This would allow manufacturers to avoid the risk of high costs in exchange for the possibility that fuel economy—and oil savings—might be lower if that turns out to be the case. As noted earlier, the current program already has such a fee, defined as a penalty, which is often used by European manufacturers but has been avoided by domestic and Asian manufacturers. By "decriminalizing the fee, Congress could help allay manufacturer concerns and reduce the central debate about how much technology really costs—perhaps allowing higher standards to be introduced more quickly.

Transparency About Costs

The recent light-truck rule highlighted the fact that the cost estimates used to set fuel economy standards remain something of a mystery. Despite the fact that the benefits of improving fuel economy increased by 50 percent between when the proposed and final rules were published, due to dramatic increases in forecast oil prices, the estimated aggregate fuel economy standard for 2011 increased by only 0.2 mpg, from 23.9 to 24.1 mpg (excluding medium-duty vehicles, which were not included in the proposed rule). Yet, the standard is supposed to represent a balancing of costs and benefits.

The final rule indicates that there were countervailing changes in estimated costs—related to the costs of technologies and especially the time required to phase in those technologies—but those changes are difficult to judge because the underlying details of the cost model are not spelled out clearly. Without any countervailing effects, my comments last fall suggested that a 50 percent increase in benefits might lead to a 4–5 mpg increase in the standard. Having reviewed other cost analyses, I might adjust that downward, closer to 2 mpg. In any case, a 0.2 mpg increase is surprisingly small despite the indicated countervailing modeling changes.

It might be desirable, therefore, for the Department of Transportation to be required to make public the cost modeling used in any rulemaking to set fuel economy standards. In the past, such disclosure would have been nearly impossible, as it entirely centered on the capabilities of one manufacturer. Now, there is presumably safety in numbers: Cost modeling for particular vehicle sizes can be disclosed, on average, without necessarily revealing proprietary information. Such a requirement would facilitate a more informed debate in the rulemaking process.

Do Fuel Economy Standards Make Sense?

So far, the discussion has centered on how to improve CAFE through statutory reform—that is, how to get more fuel savings at lower cost, while addressing concerns about equity and safety. This is an extremely important question, given the likelihood that the CAFE program will not go away and will remain the main policy tool for addressing concerns about petroleum use in the transportation sector. Nonetheless, it is useful to ask whether CAFE makes sense compared to other choices, or whether Congress should instead focus on an entirely different policy.

The underlying motivation for CAFE is the desire to reduce oil demand because of concerns about costs, security, and the environment. Given this underlying motivation, many people, especially economists, often criticize CAFE policy for two related reasons: First, it does not encourage consumers, once they buy a vehicle, to drive less; and second, it implies that the government can do a better job of weighing the costs and benefits of fuel-saving vehicle technologies than the auto manufacturers and auto consumers who make and use those vehicles. These critics typically conclude that the better policy is to tax gasoline, where the tax rate reflects some or all of the additional cost to society associated with oil use—for example, the nega-

tive influence of oil supply disruptions on the economy, domestic and international environmental impacts, and highway congestion.

One response is to agree with the CAFE critics on principle, but note that political opposition to gasoline tax increases make them impractical. However, we can also take issue with the second criticism and argue that auto manufacturers and consumers are *not* really making good decisions about fuel economy. Several explanations for this failure stand out. The first is that consumers may not know, understand, or believe differences exist in fuel economy among vehicles. The recent controversy over the inaccuracy of EPA fuel economy ratings on information labels underscores this point.

Second, even understanding that those differences exist and are real, consumers may not rank fuel economy high enough to worry about when shopping for a car. Cargo capacity, power, and styling may be more important to consumers. Finally, even if consumers consider fuel economy, they may find it does not make a big enough difference to sway their choice of vehicle. Typical fuel economy decisions might represent an annual net gain per vehicle of about $50–$500, depending on the payback period a consumer requires. On a $20,000 new car, this is analogous to an option for a fancy radio or improved styling.

Finally, consumers may not properly account for the full value of future fuel savings from a more fuel-efficient car, considering, for example, only the first few years of savings rather than the entire vehicle lifetime.

If consumers are systematically undervaluing fuel economy, it makes sense that vehicle manufacturers are not going to build more fuel-efficient cars. Based on that observation—an observation with which I tend to agree—fuel economy standards *are* a sensible policy and Congress should focus on reforming CAFE to make it more efficient.

It is worth noting that one argument that *cannot* be used to support CAFE is that stricter fuel economy standards will substantially lower gasoline prices. Recent estimates by the Energy Information Administration, for example, suggest that a 36 percent improvement in CAFE (6-7 mpg) would lower gasoline prices by at most $0.08 by 2025. More modest CAFE improvements, such as the recent 1.8 mpg increase in light-truck standards, would lower gasoline prices even less (although the impact is larger with reforms than without). However, CAFE will lower *expenditures* on gasoline, as the quantity consumed will decline even if the price remains relatively insensitive. More importantly, it will reduce the *vulnerability* of the economy to future oil price shocks by reducing the share of gasoline expenditures in overall economic activity.

Overall Conclusions

Following on the heels of recent regulatory reforms to the light-truck CAFE program, Congressional action to similarly reform the CAFE program for passenger cars—as well as to enact further reforms that were not possible in the light-truck rulemaking—has a large potential to improve program efficiency, to make the program more equitable, and to do all of this without sacrificing safety. The light-truck rule provides a model for two improvements: differentiating manufacturers' standards based on their mix of large and small vehicles, and setting the overall level of the standards based on an explicit and careful cost-benefit analysis. Further reforms include trading between the passenger car and light-truck fleets, trading among manufacturers, unrestricted banking of CAFE credits earned by exceeding the standard, and a cost-limiting safety valve.

It is surprising that the recent final rule for light-truck fuel economy in 2011, based on balancing costs and benefits, demonstrated remarkably little sensitivity to a 50 percent increase in the value of fuel saving benefits. This surprise, along with other concerns about how NHTSA would set the standards, has led to calls for Congress to directly set the standard in statute. Nonetheless, I find the complexity of the standard-setting process, as well as the need to regularly revisit the level of the standard, to be more suitable for agency rulemaking than Congressional action. Congress can instead reform the structure of CAFE to increase efficiency, continue to give NHTSA clear guidance on the key costs and benefits it should consider, and perhaps require greater transparency with regard to the cost modeling.

Lastly, critics often argue that CAFE is not the right policy to address petroleum use in the transportation sector, because it improperly focuses on creating more fuel-efficient vehicles rather than alternatively or additionally encouraging consumers to drive those vehicles less. Such a criticism is based on an assumption that consumers and manufacturers will make good decisions about fuel economy based on technology and fuel costs. Yet, there are a variety of reasons why this assumption might be false; based on my belief that these reasons have credibility, a CAFE program continues to make sense.

In summary, Congress has a great opportunity to improve the efficiency of an extremely significant program to reduce oil consumption in the United States, namely by reforming the fuel economy program for cars and light trucks. Such reforms will reduce the costs of achieving a given standard and allow us to pursue greater fuel economy without sacrificing safety. In contrast to other policies being promoted to address concerns about higher fuel prices and oil dependency, such improvements attack the problem directly by reducing both our expenditures on oil and our vulnerability to future price increases.

I thank you again for the opportunity to appear before this Committee, and I would be pleased to answer any questions.

APPENDIX I—UNDERSTANDING PROPOSED CAFE REFORMS FOR LIGHT TRUCKS

FR DOC. 05–17005

Summary

On August 23, 2005, the National Highway Traffic Safety Administration (NHTSA) released a Notice of Proposed Rulemaking (NPR) on corporate average fuel economy (CAFE) standards for light trucks along with a Preliminary Regulatory Impact Analysis (PRIA) (NPRM: *Federal Register* 05–17005, vol. 70, no. 167, August 30). Relative to the existing 2007 standard of 22.2 miles per gallon (mpg), the proposed changes include fuel economy standards of 22.5–23.5 mpg over 2008–2010 using the current program design.

More notable, however, are proposed changes to this design. Under the proposed changes, each manufacturer would still need to meet a single overall standard for their light truck fleet, but that standard would differ across manufacturers based on their production of different sized vehicles. Vehicles with different footprints (wheelbase times track width) would have different fuel economy targets and a manufacturer's overall standard would be based on these size-differentiated targets averaged over their specific fleet. During 2008–2010, manufacturers would have a choice of complying with either the old (unreformed) or new (reformed) CAFE standards.

Importantly, the fuel economy standards starting in 2011 would be set explicitly to maximize net benefits to society—including fuel savings, safety, security, and environmental concerns. Among other things, this shift implies that those standards will rise along with the price of oil. While the proposed 2011 targets assume $25–30 per barrel crude oil prices (based on available government forecasts) and are estimated to achieve a 24 mpg fuel economy, we estimate that an additional $20 per barrel (in line with recent long run private-sector forecasts) would raise the proposed targets by perhaps 4–5 mpg.

The proposed reforms also erase the current disparity between passenger automobile and light truck standards, as the smallest light truck category would have a target exceeding the current 27.5 mpg for passenger automobiles. This would remove the incentive for automakers to effectively design passenger cars that can be categorized as a light truck (by raising the height, making the seats removable, etc.) in order to face an easier fuel economy standard.

From an economic perspective, these reforms represent a remarkable shift toward a more efficient regulatory system. Still, potentially valuable, further improvements remain—trading of CAFE credits across manufacturers and between passenger cars and light trucks, for example. The proposed reforms also fail to address the larger economic questions of whether taxes or tradable permits (for gasoline usage) would be a better policy than a CAFE performance standard, and whether consumers and manufacturers are really making bad fuel economy decisions absent government intervention. The latter question could also have significant implications for whether technology costs and fuel economy benefits are correctly valued in the CAFE analysis.

The remainder of this memorandum walks through essential elements of the reform package, provides a quick economic analysis, and summarizes the economist's perspective.

Unreformed CAFE

Existing CAFE regulations establish a single mileage standard that must be met, on average, for every manufacturer's light truck fleet. That is, each manufacturer takes the fuel economy of each light truck model they produce, and then averages those numbers weighted by production volume. That number must be at or above the mandated standard. If the manufacturer beats the standard, the manufacturer collects CAFE credits that can be used to make up any shortfall in the next three years. If the manufacturer misses the standard and does not have any credits, there

is a penalty equal to $5.50 per 0.1 mpg per vehicle. The penalty is routinely paid by European manufacturers but has never been utilized by domestic or Asian manufacturers.

The level of the standard is set with an eye toward achieving the maximum possible fuel economy, but with considerable deference given to the ability of each manufacturer to meet that standard. In particular, NHTSA has traditionally focused on the least capable vehicle manufacturer and tailored the standard to be "economically practicable" for that firm. The actual analysis is based on confidential manufacturer data and modeling. This approach was used in 2003 to set the 2005–2007 standards. Prior to that, Congressional riders prevented any changes to the CAFE levels for light trucks since 1996. The standard for passenger cars has remained unchanged since 1990.

One consequence of this approach is that the single standard for light trucks is tougher—more expensive—for manufacturers with a full line, including large trucks that have lower fuel economy, and easier for manufacturers focused on small trucks that typically have higher fuel economy. For example, Honda has consistently beaten the existing light-truck CAFE standard by 4–5 mpg, suggesting it has had no effect on their production decisions, while the major domestic manufacturers that produce a broader range of trucks have hovered right at the standard, suggesting a real impact.

The current NPR uses this approach to determine unreformed 22.5–23.5 mpg standards for 2008–2010.

Reformed CAFE

The proposed CAFE reforms involve two major changes. The first is a shift from a single standard for all manufacturers to differentiated standards for each manufacturer based on the composition of their fleet. This shift arguably eliminates the notion of a least capable manufacturer because standards are tailored to each manufacturer's vehicle mix. The second is a shift to an explicit cost-benefit analysis based on fuel savings and other consequences of gasoline and vehicle usage. While previous standards have utilized cost-benefit analysis as part of the regulatory impact analysis *after* the standard was set, the proposed reforms put the cost-benefit analysis front and center.

Differentiated Standards

The NPR proposes differentiating fuel economy standards for light trucks using six discrete size categories, but requests comments on the use of both alternative attributes and/or more size categories (or even a continuous function). The size of a vehicle, or "footprint," is defined by multiplying the track width (distance between tires on the same axle) multiplied by the wheelbase (distance between centerlines on each axle). The proposed ranges for each footprint category, according to NHTSA, were based on an effort to keep the majority of models in the low end of each range; that is, to avoid creating significant opportunities for firms to slightly increase the size of a vehicle and have it move into the next higher range with a correspondingly lower standard.

NHTSA then establishes the *relative* position of targets for each category. That is, category 2 is 0.8 mpg lower than category 1; category 3 is 3.4 mpg lower than category 2; etc. These relative positions are determined based on the difficulty/cost of achieving fuel economy levels in each category. The result is a schedule of fuel economy targets for different size categories, but only defined relative to each other.

Setting the Standards

The actual standards are determined by moving the absolute level of this schedule up or down in order to meet one of two criteria. From 2008–2010, the criterion is that the total cost to industry under the reformed regulation should equal the total cost to industry under the unreformed regulation, described earlier. From 2011 onward, the criterion is that benefits to society, minus costs, are maximized. Table 1 summarizes the resulting standards in the NPR.

With the target for each category in hand, the standard for each manufacturer is based on how many trucks the manufacturer produces in each category. Based on current projections by NHTSA, that results in the manufacturer-specific standards given in Table 2. Note that manufacturers do not have to meet the target in any one category, but underachievement in one category has to be offset by overachievement in another.

Analysis

Several questions naturally arise when evaluating the proposed reform package. Does it cost more or less than the unreformed policy? Even if the cost is roughly the same, is the *distribution* of costs different across manufacturers? Does it achieve

more overall fuel economy for a given cost? Are these cost-benefit estimates consistent with other cost-benefit estimates? We briefly examine each question in turn based on available data.

Does Reformed CAFE Cost More?

There are no direct comparisons of costs under the proposed, cost-benefit approach to setting the standard versus costs based on the existing, least-capable manufacturer approach. A footnote in Table 3 highlights this fact—costs are similar in each year where both reformed and unreformed CAFE costs are reported *by design.*

However, looking at those same cost estimates in Table 3 *across years,* we do not see a dramatic difference moving from 2010 to 2011, when the new metric of maximizing net benefits is applied for the first time, versus moving from 2007 to 2008, 2008 to 2009, or 2009 to 2010, when the overall cost to industry is set based on unreformed CAFE. Costs per vehicle rise by $89 from 2010 to 2011, but they rise by $88 from 2008 to 2009. That suggests, at the very least, that any increase in costs from the reformed approach is in line with the spending trend for fuel economy improvements over time under the unreformed program.

Is the Distribution of Costs Different Across Manufacturers?

Unreformed CAFE sets a common standard for all manufacturers, whereas reformed CAFE will set differentiated standards based on each manufacturer's product line—higher standards for manufacturers specializing in smaller trucks. Other things equal, this suggests a shift in costs away from manufacturers of larger trucks and toward those which only manufacture smaller light trucks. Table 4 quantifies this shift using historical data on CAFE credits: Under both reformed and unreformed CAFE, manufacturers can earn credits equal to the amount by which their fleet exceeds the standard, expressed in tenths of a mile-per-gallon, per vehicle. These credits can then be used in future years to make up a deficit if they fail to meet the standard.

Based on historic manufacturing data for 2002–2004, Table 4 shows the change in manufacturers' net CAFE credits position under the reformed versus unreformed program; positive numbers reflect a better outcome under reformed CAFE. What we see is that three manufacturers, Hyundai, Isuzu, and Suzuki, do noticeably worse, facing a deficit of perhaps 30 credits per vehicle absent changes. Meanwhile, GM, to a lesser extent Ford, and eventually Nissan, all see an improvement of 2–6 credits per vehicle. If we look at the underlying production data available in Tables III–3 through III–5 of the PRIA, the three manufacturers who face the greatest deficit are the ones whose trucks fall entirely in the smallest two of the six reformed CAFE categories. Meanwhile, GM, Ford, and Nissan have the largest share—more than one-third—in the largest two categories by 2004 (only 20 percent of DaimlerChrysler vehicles fell in those two categories in that year).

Does Reformed CAFE Achieve More Fuel Economy for a Given Cost?

Given that the costs of reformed CAFE are similar to the costs of unreformed CAFE, the delivered value of the proposed reforms turns on whether benefits are higher. Table 5 compares estimates of the fuel economy, gallons saved, and dollar benefits under the two programs. For all three metrics, we see reformed CAFE improvements that are 12–15 percent higher in 2008, 19–20 percent higher in 2009, and 6–7 percent higher in 2010. No comparison is possible in 2011, because only reformed CAFE estimates were provided.

Are the Cost Estimates Consistent With Other Studies?

In an effort to benchmark the cost analysis in the NPR and PRIA, we used the data contained in the 2001 National Academy of Sciences (NAS) CAFE study to estimate cost curves for fuel economy improvements for different classes of light trucks (SUVs, trucks, and minivans). We compare these costs to the benefits from fuel savings in the NPR, ignoring all of the additions and subtractions for various externalities the PRIA considers that have a net effect of lowering benefits 2–4 percent (see PRIA Tables VIII–4 through VIII–10). We then estimate the net benefit maximizing level of fuel economy.

Despite the fact that our data is now five years old and that we could not replicate the size-based categories in the NPR, our results suggest a benefit-maximizing fuel economy squarely in the range of the 22.6–24.0 mpg levels forecast under the proposed rule. However, it is important to highlight that this estimate uses the NPR and PRIA oil price forecast of $25–30 from the *Annual Energy Outlook 2005.* More recent private sector forecasts suggest an increase of perhaps $20 per barrel, adding an additional $0.50 per gallon to the fuel economy savings and raising our estimate of the benefit-maximizing fuel economy by 4–5 mpg.

Perspective

From an economist's perspective, the proposed reforms represent a clear move toward greater efficiency, perhaps even an optimum given current statutory constraints. Moving beyond this constraint, however, the efficiency of the CAFE program could still be improved by allowing trades among manufacturers and between cars and trucks. Because the benefit per gallon is now the metric for setting the standard, one could also ask whether this value ought to be used to cap the cost of any compliance efforts by allowing manufacturers to pay that value (or some multiple) if they miss the standard. One might even want to back up and ask whether CAFE itself—that is a performance standard for vehicles rather than fuel taxes or emissions trading—is what we really want. Many economists argue that consumers and manufacturers already make the desired fuel economy decisions without regulation, excluding concerns over the environment, security, and safety. If so, the fuel economy savings and technology cost ought to balance at the margin, suggesting they have been incorrectly valued in this analysis.

Importantly, by raising the target for small trucks above the standard for passenger vehicles the proposed reforms eliminate the incentive to redesign what is essentially a passenger vehicle in order to be classified as a light truck and to face a lighter CAFE standard. Under the current program, such redesigns are often cited as a significant, adverse, and unintended consequence of the wide gap in standards between cars and trucks.

Finally, our calculations, showing that recent increases in long-run oil prices raise the desired fuel economy by 4–5 mpg, highlight the importance of assumptions about these prices. While it is unclear what role oil prices played in setting standards under the unreformed program, they *drive* the standards set by benefit maximization under the reformed program.

Tables and Figures

Table 1. Proposed Targets (in mpg)

Category	1	2	3	4	5	6
Range of vehicle footprint (sq. ft.)	≤43.0	>43.0–47.0	>47.0–52.0	>52.0–56.5	>56.5–65.0	>65.0
MY 2008 Targets	26.8	25.6	22.3	22.2	20.7	20.4
MY 2009 Targets	27.4	26.4	23.5	22.7	21.0	21.0
MY 2010 Targets	27.8	26.4	24.0	22.9	21.6	20.8
MY 2011 Targets	28.4	27.1	24.5	23.3	21.9	21.3

Source: NPR Table 6.

Table 2. Estimates of Required Fuel Economy Levels (in mpg)

Manufacturer	MY 2008	MY 2009	MY 2010	MY 2011
BMW	23.8	24.8	25.1	25.7
Suzuki	26.0	26.7	26.8	27.5
Volkswagen	22.7	23.9	24.3	24.8
General Motors	22.2	22.8	23.2	23.7
Ford	22.4	22.9	23.1	23.6
DaimlerChrysler	22.8	23.5	23.7	24.2
Honda	23.1	24.0	24.2	24.8
Hyundai	24.2	25.9	25.7	26.3
Nissan	22.1	22.8	23.2	23.7
Toyota	23.2	24.1	24.5	25.0
Fuji (Subaru)	24.8	25.6	25.8	26.4
Porsche	22.3	23.5	24.0	24.5
Isuzu	22.3	22.9	23.2	23.7

Source: NPR Table 7.

Table 3. Incremental Cost per Vehicle

	MY 2008	MY 2009	MY 2010	MY 2011
Unreformed CAFE in 2008–2010	56	130	185	N/A
Reformed CAFE in 2008–2011	54*	142*	186*	275

*By policy design, the proposed mpg levels under Reformed CAFE are set so that the industry-wide costs of Reformed CAFE are roughly equal to the industry-wide costs of Unreformed CAFE for MY 2008–2010.
Source: PRIA Table I.

Table 4. Effect of Reformed CAFE, Relative to Unreformed CAFE, on Manufacturer's CAFE Credit Position Using Historic Data

[change in credits per vehicle]

Manufacturer	Market share (2004)	2002	2003	2004
BMW	0.01	-4.29	-0.92	-16.23
DaimlerChrysler	0.19	-3.03	-6.00	-7.25
Ford	0.23	2.80	-1.00	3.01
GM	0.29	7.87	6.00	5.63
Honda	0.06	-3.51	-11.00	-9.91
Hyundai	0.02	-13.64	-30.05	-27.15
Isuzu	0.00	-14.32	-29.76	-27.21
Nissan	0.06	-9.89	-16.02	2.18
Suzuki	0.00	-16.71	-29.90	-29.40
Toyota	0.13	-4.50	-5.01	-7.99
Volkswagen	0.01	-8.53	-15.12	-8.14

Source: PRIA Tables III–3 through III–5.

Table 5. Benefit Estimates, Reformed and Unreformed CAFE

	2008	2009	2010	2011
Fuel economy improvement versus baseline (mpg)				
unreformed	0.26	0.59	0.87	
reformed	0.29	0.71	0.88	1.34
Gallons saved over vehicle lifetime versus baseline (millions, undiscounted)				
unreformed	826	1860	2715	
reformed	942	2218	2892	4110
Benefits versus baseline ($millions, net present value at 7 percent over vehicle life for each model year)				
unreformed	605	1366	2007	
reformed	694	1633	2144	3069

Source: PRIA Tables VI–1b, VI–2, VI–3 (Fuel Economy), PRIA Table 5 (Gallons), PRIA Table 3 (Benefits).

Senator LOTT. Thank you, Congressman.

And Ms. Joan Claybrook, good to see you again.

STATEMENT OF JOAN CLAYBROOK, PRESIDENT, PUBLIC CITIZEN

Ms. CLAYBROOK. Thank you so much, Mr. Chairman. It's a pleasure to be here.

I'd like to point out that I issued the first, and only, car fuel economy standards for this Nation in 1977, setting the final standard in 1985, which was mandated by the Congress in the Energy Policy Act of 1975. We set the standard at 27.5—based not on just

product plans, which is what the current DOT Secretary talks about, but product capability. This issue reveals the great deficiency in the way that they have addressed this. You have some awesome women on this panel, Mr. Chairman, and they have——

Senator LAUTENBERG. Can you move the mike up a little closer?

Ms. CLAYBROOK. You have some awesome women on this panel, Mr. Chairman, and they have dissected this rule already. But I would like to add one piece to that, dealing with the sliding scale for the light-truck rule, which the Secretary's asking authority to have for the car standards, and that is that it's left to the discretion of the manufacturer as to how much fuel is going to be saved, because it's a sliding scale. And so, if a manufacturer wants to increase the weight of their vehicle just a little bit more, they will have less fuel economy to meet. That is, the whole concept of this rule is that the bigger the vehicle—the bigger the footprint of the vehicle—the less fuel economy you have to achieve. So, the larger they make their vehicles, the less fuel economy they have to achieve. So, I believe it's a mirage about how much fuel savings is actually going to occur under that rule. And I would certainly oppose that for the car standards.

This restructuring that they're asking for, I think, is a terrible mistake. And it's certainly not needed for cars in the same way they've tried to justify it for trucks, as there's so much less differential between the smallest car and the largest passenger car. So, you really don't need it in the same way that you might be able to assert that it's needed for trucks.

The suggestion that we have is that the Congress set a long-term goal. We haven't given a number, but we would support the bill that Senator Snowe has suggested. And we would definitely say that you should set a standard for 2008 and 2009 in the statute, because the agency is not going to be able to get, as they have said today, their rulemaking done by that time. And so, you're not going to have any activity, really, until 2010.

In response to the fuel economy standards that I set in 1977, because there was a long-term goal of 1985, the auto industry immediately started changing its product plans. In fact, they boasted—General Motors boasted that they weren't going to meet 27 and a half, they were going to meet 30 by 1985, at one point. And then, when the Administration changed, unfortunately the standard was lowered to 26 temporarily. And so, all of that fuel economy advancement left the product planning activity.

So, we would definitely suggest, for 2008, a 31 mpg—the Secretary said, on average, that they're now at 30—and 32.5 for 2009.

In addition, I would just like to address safety for a second. I know my time is up, but if I could just take 1 minute to do that. The National Academy of Sciences based a conclusion that 2,500 deaths would be lost with an increase in fuel economy, based on a study by the Department of Transportation, authored by a gentleman named Kahane. His study was totally deficient, because it made an assumption, a theoretical statistical assumption, that you would reduce the weight of every vehicle by 100 pounds. And that has never happened nor would it. When the auto manufacturers reduce weight, they take it out of the behemoths. They take it out of the great big guys because that's the most cost-effective and effi-

cient way for them to do it. It's what they did in the period between 1975 and 1985. They never reduced the weight of the smaller vehicles. In fact, if you look in the back page of my testimony, it shows what's happened with cars. Cars used to vary from 5,500 pounds to 2,000 pounds. And after the 1977 standards were issued, the fleet homogenized. And today, there are no 2,000-pound cars on the highway, and there are no 5,500-pound cars on the highway. They're now between 2,500 and 4,000. So, there is much more homogenization of the size/weight of cars today on the highway. And that's the opposite of what the current DOT did for the light-truck standard. They said, "The bigger it is, the less fuel economy you have to meet." So, there isn't going to be any homogenization of the size of these big vehicles. And they don't even deal with the ones over 8,500 pounds. So, you're going to have these very huge, dangerous vehicles on the highway still hitting smaller vehicles. And if there's one thing that this Committee could do for safety, it would be to command the Department of Transportation to issue a compatibility standard. Since now they're going to have these big behemoths out there, require them at least to make these vehicles compatible when they hit other vehicles, and that would save more lives than anything else.

And it's a total myth that safety is harmed by improving fuel economy. In fact, safety is improved by design. If you design a car right, it's safe.

Thank you so much, Mr. Chairman.

[The prepared statement of Ms. Claybrook follows:]

PREPARED STATEMENT OF JOAN CLAYBROOK, PRESIDENT, PUBLIC CITIZEN

Thank you, Mr. Chairman and members of the Committee, for the opportunity to be here today. My name is Joan Claybrook and I am the President of Public Citizen, a public interest organization with 130,000 members nationwide. I was the Administrator of the National Highway Traffic Safety Administration (NHTSA) from 1977 to 1981, and as Administrator, I issued the first fuel economy standards for cars and light trucks. In total, I have worked to improve motor vehicle safety and fuel economy for more than 40 years.

The fuel economy standard for passenger cars has not been raised since I issued the 27.5 miles-per-gallon (mpg) standard in 1977 under the Energy Policy and Conservation Act (EPCA) of 1975. The standard has not changed since 1990, when it was revised back to 27.5 after being lowered in 1986. The current standard is still 27.5 mpg and was first achieved in 1985 as the law required; more than twenty years of lost opportunities to increase fuel economy have been squandered by inaction. If the car standard were an extremely reasonable 35 mpg today, we would save approximately 1.1 million barrels of oil each and every day. If the standard was an achievable fleet-wide average of 40 mpg, we would save approximately 3.4 million barrels of oil a day.[1] Over the course of a year, these savings would total approximately 1.24 billion barrels, a quantity almost one-and-a-half times greater than our current annual imports from the Persian Gulf.

Increasing the fuel economy of passenger vehicles would lower gas prices within a few years by reducing demand substantially. It would also bolster national security, improve safety, conserve natural resources, reduce pollution and help slow the effects of global warming. It is critical that Congress act to ensure an increase in fuel economy standards for passenger cars, which account for approximately 25 percent of our total oil consumption.[2]

I would like to urge Congress to take the following actions to improve car fuel economy:

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[1] Analysis by Therese Langer, Transportation Program Director, American Council for an Energy-Efficient Economy.

[2] *Ibid.*

1. Congress should clarify whether NHTSA has the authority to raise the fuel economy standards for passenger vehicles in the absence of the Congressional veto, which the Supreme Court declared unconstitutional in Public Citizen's lawsuit, *INS* v. *Chadha* in 1983.[3]

2. Congress should require an increase in passenger car fuel economy standards.

3. To assure immediate improvements in fuel savings, Congress should statutorily set the fuel economy standard at 31 mpg for 2008 cars and 32.5 mpg for 2009 cars and direct NHTSA to set higher standards for later model year passenger vehicles through 2015.

4. Congress should direct NHTSA to promulgate a single mpg requirement rather than a sliding-scale standard, like the light truck fuel economy standard the agency just issued on April 6, 2006. I will make the case that, contrary to arguments otherwise, increases in the single mpg fuel economy standard for cars would improve, not harm, safety, and a sliding-scale system for car fuel economy is not needed to ensure fair competition among manufacturers.

5. Congress should lock in the minimum miles per gallon at 27.5 through a backstop measure that increases the minimum miles per gallon as the fuel economy standard is increased.

One of the hotly debated issues regarding the car fuel economy standard is whether clarification of NHTSA's authority to increase the standard is needed for the agency to act. While some legal experts say that it is not necessary, others say it is likely required. To avoid almost-certain litigation over this issue, Congress should clarify NHTSA's legal obligation to raise fuel economy standards for passenger cars given the removal of the Congressional veto.

Such a clarification should also provide a mandate to act. The current law states only that the Secretary "may" raise fuel economy standards.[4] Any reasonable clarification of this standard would require that the Secretary "shall" raise fuel economy standards for cars by a certain date consistent with achievement of the maximum feasible average as defined in the current law. This would provide a new mechanism for agency accountability should NHTSA fail to act.

NHTSA agrees that clarification of its authority would be useful. The position of NHTSA, as articulated by Department of Transportation (DOT) General Counsel Jeffrey Rosen at a hearing by the House of Representatives' Energy and Commerce Committee on May 3, 2006, was that "the statute had provided the authority subject to a legislative veto and that's why it would be good to clarify" it. In its rulemaking notices, NHTSA has stated only that it has authority to "change" the standards on the right showing of need under the statute. However, the only "change" NHTSA has ever made to the 27.5 mpg standard was to lower it in 1986 to 26 mpg, which is consistent with the agency's citation of case law concerning NHTSA's authority to lower the standard under the current statute.[5] The standard subsequently returned in 1990 to 27.5 mpg where it has stagnated for the past 16 years.

Because of the urgent need to address high fuel prices, Congress should also avoid needless delay in payoff from increased car fuel economy by statutorily setting the standard for model years 2008 and 2009. This would provide the necessary lead-time for rulemaking by allowing NHTSA to set higher standards for later model year passenger vehicles. Under the current law, NHTSA must provide 18 months of lead time prior to a model year to allow automakers to form or adjust product plans. The light truck standard beginning in model year 2008 was just issued by NHTSA on April 6, 2006—18 months prior to the start of that model year. If Congress were to act quickly, it would provide virtually 18 months notice for automakers regarding the passenger vehicle standard for model year 2008 and substantially more notice for model year 2009. However, the agency should be encouraged to issue future standards with greater lead time to allow companies to meet more demanding standards.

According to data from the Environmental Protection Agency, which files an annual report tracking trends in vehicle fuel economy, automakers experience, on average, fuel efficiency gains of 1.9 mpg in each model year. These are the result of innovation and progress in vehicle and technology design and manufacturing.[6] In

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[3] See *INS* v. *Chadha*, 462 U.S. 919 (1983).

[4] *See* 49 U.S.C. § 32902(c)(1).

[5] *See CEI* v. *NHTSA,* 901 F.2d 107 (1990); *CEI* v. *NHTSA,* 956 F.2d 312 (1992); *CEI* v. *NHTSA,* 45 F.3d 481 (1995).

[6] U.S. Environmental Protection Agency, "Light-Duty Automotive Technology and Fuel Economy Trends: 1975 Through 2003," EPA420–R03–006, April 2003.

the absence of meaningful fuel economy requirements, most of this added efficiency in cars and light trucks has been used for bulking up vehicle weight, acceleration and torque.

It has been over twenty years since automakers have been told to use this increase for fuel economy purposes. Last week, the Department of Transportation (DOT) admitted that the average car fleet fuel economy today is about 30 mpg, but some manufacturers are still below the 1985 standard.[7] Many existing cost-effective fuel-saving technologies, such as six-speed transmissions, have been allowed to molder on the shelf. Based on the existing standard, an increase of 1.9 mpg per year consistent with EPA's calculated fuel efficiency increases would predict achievable fuel economy of at least 30.3 mpg in 2008 and 32.2 mpg in 2009. Given the use of hybrid and other advanced technologies, manufacturers could easily meet fuel economy standards of 31 mpg for 2008 model year cars and 32.5 mpg for 2009 model year cars. Congress should mandate these increases to avoid rulemaking delays while allowing NHTSA to set the standard through notice-and-comment rulemaking for model year 2010 and later.

Congress should also specify that the car standard be a single standard rather than a sliding-scale system. Congress could do this by adding the phrase "a single standard" to the mandate. There is no need for the passenger car standard to incorporate a restructuring of the current system. The agency's stated concerns about the safety effects of down-weighting in response to a single standard are unfounded. Another common argument for a sliding-scale system is that it may help to assure there is fair competition among manufacturers.

This argument was used by NHTSA in support of the new light truck fuel economy standards for model years 2008 through 2011, which is based on a sliding scale that requires larger vehicles to comply with less stringent standards. The measure used by the agency is vehicle "footprint," or the space occupied by the vehicle on the highway—essentially, the length times the width of the vehicle between tires, or wheelbase. This system is intended to insulate full-line manufacturers from a disadvantage in competing with manufacturers that make smaller light trucks and can therefore more easily meet fuel economy standards.

This circumstance does not apply to the car marketplace, as most manufacturers now make a full line of vehicles. For instance, using EPA's four car classes—subcompact, compact, midsize and large—seven of eleven major manufacturers produce a large sedan and nine of eleven produce a subcompact. Moreover, relative differences in fuel economy between light and heavy cars are not nearly as great as they are between trucks.

In contrast, any restructured system that creates a sliding scale, such as the recent light truck and SUV fuel economy standards, raises serious concerns that oil savings will erode, or even evaporate, over time due to the risk that manufacturers will up-size vehicles to qualify for less stringent standards. Figure A, below, examines manufacturers' product plans, as submitted to NHTSA, for the light truck fleet at the time the light truck fuel economy standard was proposed and compares them with manufacturers' plans at the time the final rule was issued. The chart shows a significant reduction in the number of vehicles with the smallest footprint classification, or Bin 1 in the chart, and a significant increase in the number of vehicles with the largest footprint classification in just the brief period of time between the issuance of the advanced notice of proposed rulemaking (ANPRM) on August 30, 2005, and issuance of the final rule on April 6, 2006. This shows that automakers will, as they confessed to *Automotive News*, alter product plans and the footprint of vehicles in response to fuel economy-related incentives from NHTSA.[8]

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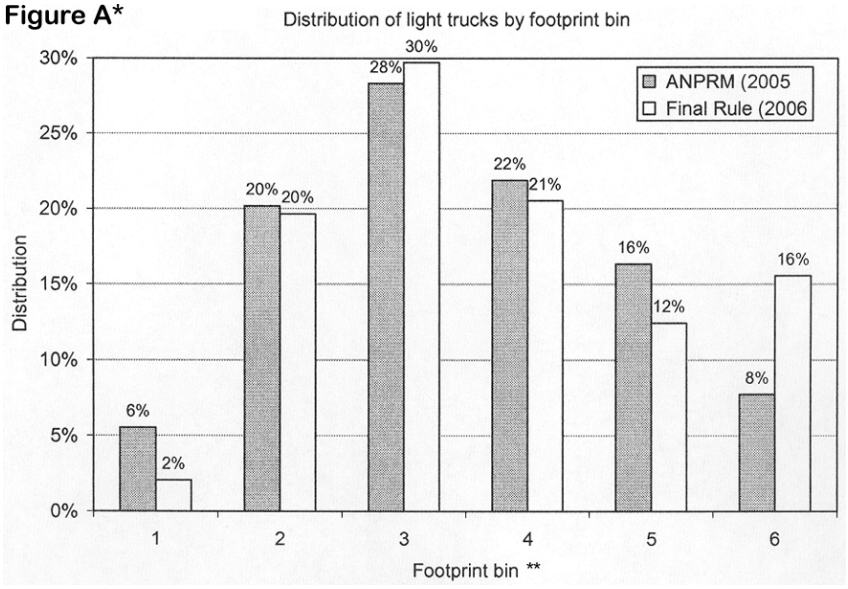
[7] *See* Juliet Eilperin, "Resistant Lawmakers Now Back Higher Gas Mileage Standards," *Washington Post*, May 4, 2006 and Matthew Wald, "Plan to Reshape Mileage Standards Could Buoy Detroit," *New York Times*, May 7, 2006.

[8] *See* Harry Stoffer, "New CAFE Rules Could Backfire," *Automotive News*, April 3, 2006.

Figure A*



*Source: NHTSA, "Average Fuel Economy Standards for Light Trucks Model Years 2008–2011," *Federal Register*, Vol. 71, No. 66, April 6, 2006, Figures 9 and 10.

**Bin 1 encompasses vehicles with footprints ranging from 34 to 43 square feet. Bin 2 encompasses vehicles with footprints ranging from 44 to 47 square feet. Bin 3 encompasses vehicles with footprints ranging from 48 to 51 square feet. Bin 4 encompasses vehicles with footprints ranging from 52 to 56 square feet. Bin 5 encompasses vehicles with footprints ranging from 57 to 64 square feet. Bin 6 encompasses vehicles with footprints ranging from 65 to 79 square feet.

Indeed, NHTSA's recent light truck fuel economy final rule projects only oil savings "estimates" due to the unpredictability of potential changes in manufacturers' future product plans for model years 2008 through 2011. Without a backstop or ratchet mechanism that would be triggered when oil savings fail to materialize, a sliding-scale passenger car standard would leave the Nation's level of oil savings at the mercy of profit-driven decisions by automakers, which may choose to "game" the car standard in the same way they are evidently now responding to the light truck rule. The incentive to upsize that comes with a sliding-scale system may also lead to larger and more aggressive vehicles, reducing overall safety.

NHTSA's rather blithe assurances in this regard cannot be relied upon. While the agency claimed that oil savings from the rule would total 10.7 billion gallons over the lifetime of model year 2008–2011 vehicles, its public statements failed to note that it never modeled the automakers' likely choices regarding the various options available under the rule. Instead, the agency counted oil savings for "best case" compliance scenarios not actually required by the rule. Moreover, the agency's oil savings estimate of 10.7 billion gallons included gains from changes in automakers' product plans made long before issuance of the agency's final rule. In sum, the oil savings numbers from NHTSA were fictional.

Congress should include a "no backsliding" measure locking in the minimum miles per gallon for the car fleet at 27.5 mpg, or for model years 2008 and 2009, the Congressionally-mandated new standard. The measure would require a fleet-wide fuel economy average for each manufacturer so that overall fuel economy gains are not lost because vehicles qualify for a less stringent based on their footprints. A "no backsliding" measure would ensure a base level of oil savings, reducing the risk of fleet erosion and incentive for gaming, and remove some manufacturer caprice from the equation. The minimum miles per gallon in the "no backsliding" measure should also be increased with each future increase in the fuel economy standard for cars.

Finally, I would like to emphasize that both car and light truck fuel economy can be improved without sacrificing safety. A common concern promoted by auto manufacturers is that fuel economy improvements result in down-weighting and thus affect safety. However, the large number of fuel-saving technologies gathering dust on

the shelf means that Congress need not fear any safety risks from vehicle down-weighting in response to higher fuel economy standards.

Historically, manufacturers have relied primarily on fuel-saving technologies, not changes in weight, to improve vehicle fuel economy. In fact, after the passenger car CAFE standard were issued in 1977, according to the Department of Energy, 85 percent of fuel economy gains came from gas-saving technologies and not from reducing vehicle weight. For the other 15 percent, automakers decreased the weight of only the *heaviest* vehicles, as investing in redesign of those vehicles paid the largest dividends in fuel savings.

For lighter vehicles, the payoff for removing weight is minimal and requires an expensive vehicle redesign. It is not, as some have wrongly asserted, cheap to accomplish. Therefore, weight changes are reserved as a fuel economy tool for only the heaviest vehicles in a manufacturer's fleet.

In addition, since 1985, when the 1977 fuel economy standard fully took effect at 27.5 mpg, auto companies have vastly increased the weight and engine power of automobiles, using fuel-saving technologies not to improve fuel economy, but to offset the increases in vehicle weight and engine power and maintain compliance with the 1985 standard. As I mentioned earlier, data from the Environmental Protection Agency show that automakers experience, on average, fuel efficiency gains of 1.9 mpg in each model year. But such gains have been used to make vehicles bigger and faster, not to improve fuel economy. Significant fuel economy savings could be easily achieved through installation of sensible engines and some accompanying down-weighting in the largest and heaviest vehicles.

In sum, given the current availability of fuel-saving technologies, as in the 1970s, any weight changes in response to a more stringent fuel economy standard would be concentrated, for economic reasons, in the heaviest part of the car fleet. Reducing weight in this segment of the vehicle fleet is both productive for fuel economy and beneficial in terms of safety for others on the road. No such reduction occurred.

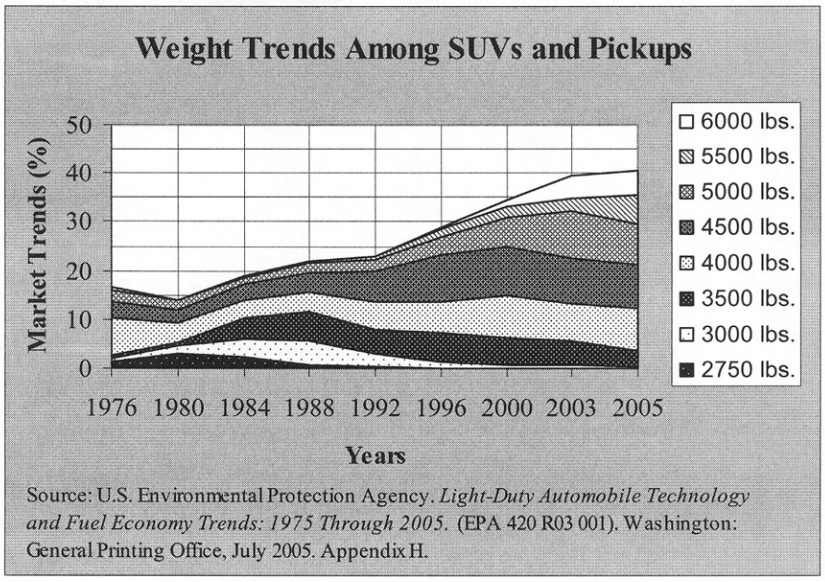
NHTSA's Kahane study, which is the basis for the National Academy of Sciences (NAS) study on the relationship between fuel economy and safety, posits a negative safety impact as a result of fuel economy increases. The study, however, wrongly assumes that fuel economy standards cause an across-the-board reduction in vehicle weights of 100 lbs. removed from each vehicle.

Additionally, the NAS report estimating that CAFE caused thousands of additional deaths in 1993 was wrong. That estimate was hotly disputed in a written dissent by two of the NAS panel members. In Figure B, below, the numbers for 1993 vehicle weights show that there was no across-the-board reduction by 100 pounds of vehicle weight. Instead the impact of CAFE had long been absorbed and the vehicle fleet normalized.

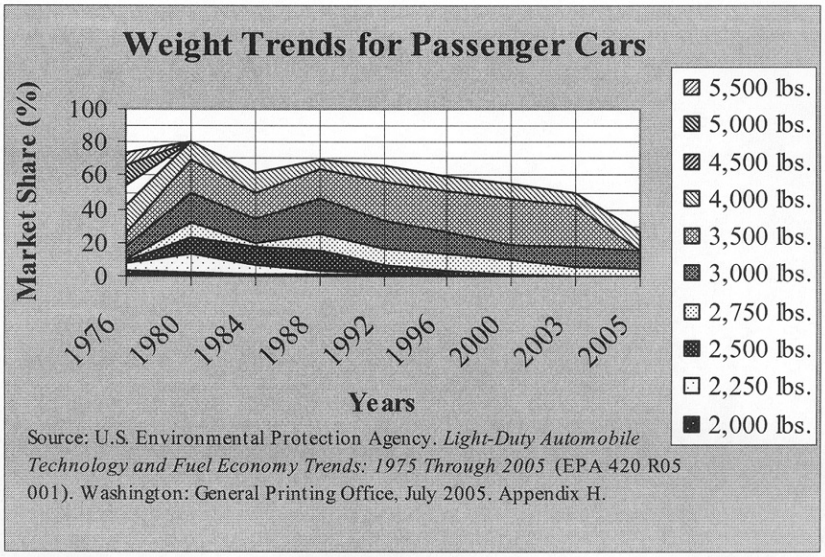
Even in earlier years, there was no down-weighting of vehicles on the lightest end of the vehicle fleet and no explosion of tiny vehicles. For example, between 1976 and 2003, the market share for heavier new cars weighing 3,000–3,500 lbs. nearly doubled, rising from 15 percent to a 37 percent total market share in 2003. Meanwhile, at just over 10 percent in 2003, the market share of lighter new cars weighing 2,000–2,750 lbs. is half what it was in 1976. The largest cars, weighing more than 4,000 lbs, all but disappeared and only reappeared in the most recent years.

Thus, there has been a homogenization of automobiles in terms of weight, which the GAO reported in the 1990s is an asset for safety because the behemoths of the 1970s were a hazard to others on the highway. An across-the-board 100 lbs. reduction in vehicle weight did not happen after the CAFE standards were issued in 1977, and will not happen in the future for the cost-effectiveness reasons explained above.

Figure B



Source: U.S. Environmental Protection Agency. *Light-Duty Automobile Technology and Fuel Economy Trends: 1975 Through 2005.* (EPA 420 R03 001). Washington: General Printing Office, July 2005. Appendix H.



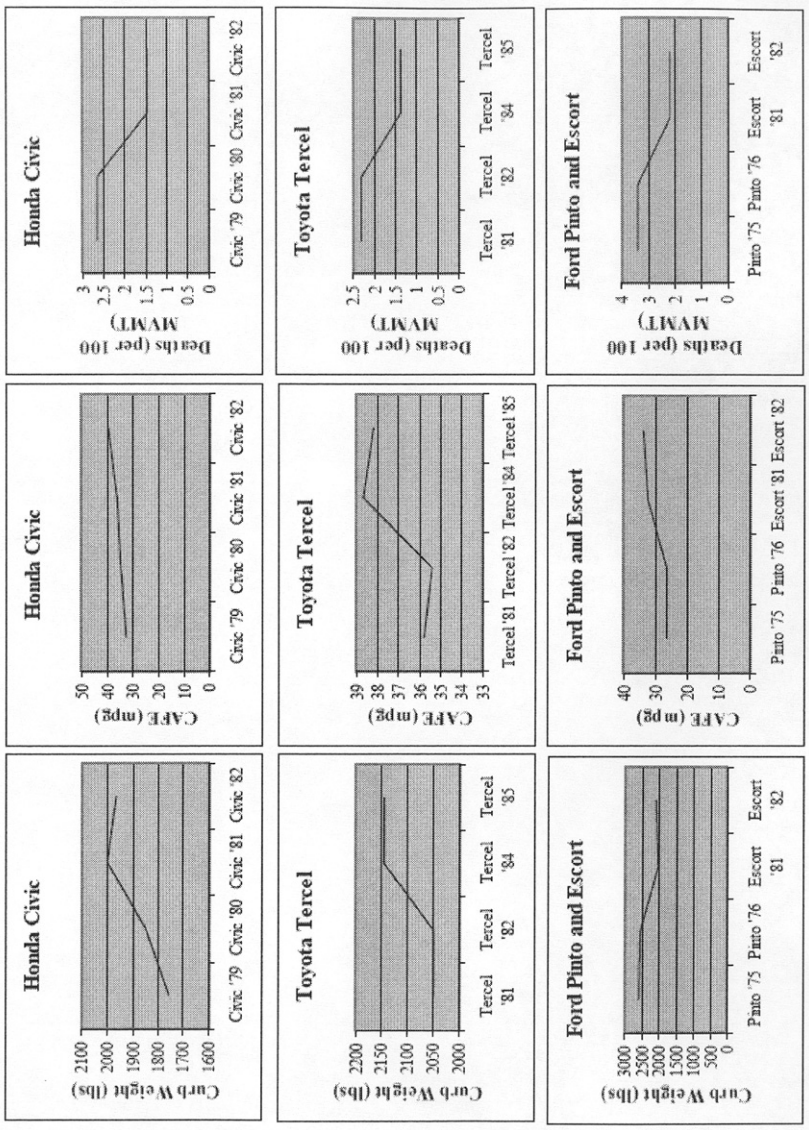
Source: U.S. Environmental Protection Agency. *Light-Duty Automobile Technology and Fuel Economy Trends: 1975 Through 2005* (EPA 420 R05 001). Washington: General Printing Office, July 2005. Appendix H.

Comparing historical fact with Kahane's 100 lb. assumption demonstrates why the NAS's use of Kahane's results has produced a widespread and unfortunate misunderstanding concerning safety and fuel economy.

In addition, the most important factor for safety is good vehicle design. Vehicle structure, crashworthiness and interior protections, as well as compatibility with other vehicles on the road, are all critical. The most significant step Congress could take to increase vehicle compatibility would be to require the agency to issue a compatibility safety standard in upcoming legislation. The 2001 and 2002 models of Honda Civics, for instance, have a far lower driver death rate than many much

heavier cars.[9] Moreover, longitudinal studies by Clarence Ditlow of the Center for Auto Safety, shown below in Figure C, of particular vehicles affected by the 1970s CAFE rules show through matched-pairs analysis that vehicles were brought into compliance with CAFE rules at the same time that they were made safer.

Figure C



In summary, Congress should take the following steps to improve car fuel economy:

1. Congress should clarify NHTSA's authority to raise the fuel economy standard for passenger cars with a single corporate average fuel economy by pro-

[9] Source: Insurance Institute for Highway Safety, "Risk of Dying in One Vehicle Versus Another," *Status Report*, Vol. 40, No. 3, March 19, 2005. Available at *http://www.iihs.org/news/2005/iihs_sr_031505.pdf*.

viding a mandate to do so consistent with the agency's obligation to achieve maximum feasible fuel economy, as defined in current law.

2. Congress should require an increase in passenger car fuel economy standards.

3. Congress should statutorily set the fuel economy standard at 31 mpg for 2008 cars and 32.5 mpg for 2009 cars and direct NHTSA to set higher standards for later model year passenger vehicles through 2015.

4. Congress should direct NHTSA to promulgate a single mpg requirement rather than a sliding-scale standard.

5. Congress should lock in the minimum miles per gallon at 27.5 through a backstop measure that increases the minimum miles per gallon as the fuel economy standard is increased.

Congress should also address several other issues critical to improving vehicle fuel economy. Congress should provide increased funding to the CAFE program to ensure its effectiveness. The program should receive at minimum $30,000,000—approximately the inflation-adjusted equivalent of the amount of $10 million that the CAFE program received to implement the first standards in 1977—and twenty staff members. Only with sufficient resources can the agency adequately research and support its decisions.

Congress should also consider eliminating the CAFE credits for production of flex-fuel vehicles, which only undermine fuel economy achievements, and instead substitute a mandate for production of flex-fuel vehicles capable of running on ethanol and other alternative fuels. And lastly, Congress should revise the statutory definition of passenger and non-passenger vehicles to reflect changes in the vehicle fleet since 1975 when EPCA was enacted. SUVs and minivans are currently classified as non-passenger vehicles despite their use to primarily transport people. The definitions should be updated to reflect current driving habits.

As the former Administrator of NHTSA charged with issuing the nation's first fuel economy standards in the 1970s, I urge the Congress to act to improve car fuel economy.

Senator LOTT. Thank you, Ms. Claybrook.

Mr. Friedman?

STATEMENT OF DAVID FRIEDMAN, RESEARCH DIRECTOR/ SENIOR ENGINEER, CLEAN VEHICLES PROGRAM, UNION OF CONCERNED SCIENTISTS

Mr. FRIEDMAN. Thank you, Mr. Chairman and members of the Committee.

I'm the Research Director for the Union of Concerned Scientists, and a Senior Engineer. UCS has been working at the intersection of science and policy for over 30 years. And that's exactly what the issues are, facing us today.

The President could not have been more correct when he told the Nation that we are addicted to oil. We import over 60 percent of our oil and other petroleum products. Every minute, $500,000 that could have been spent creating U.S. jobs and strengthening our economy, instead leaves this country to support our import habit.

The cost of our addiction, however, does not end there. Only the entire economies of the United States, China, and Russia exceed the global warming pollution resulting from U.S. cars and trucks alone. We are already seeing the impacts. Nineteen of the 20 hottest years on record have occurred since 1980.

One of the reasons for this problem is that the average fuel economy of the fleet of new cars and trucks sold in the United States in 2005 was lower than it was in 1985. And while automakers always note the number of models on the market that get more than 30 miles per gallon on the highway, they fail to mention that most

are mid-size or compact cars, and that consumers spend most of their time driving in congested city conditions.

The answer to high gas prices, in the long run, our always addiction, and our warming planet is not limiting fuel economy choices, as automakers have done, but, rather, giving consumers, who need vehicles of all shapes and sizes, safe and high-fuel-economy options. There's a lot of focus on silver-bullet solutions these days, whether it's a new fuel or a new extremely advanced technology that is not going to help us for another 20 or 30 years. The answer is not long-term silver bullets. The answer is "eating right and getting more exercise." And that's what fuel economy can give you.

[Laughter.]

Mr. FRIEDMAN. What we have lacking in the showrooms is the 41-mile-per-gallon family car, the 37-mile-per-gallon minivan, the 34-mile-per-gallon mid-size SUV, and the 30-mile-per-gallon pick-up. These are the vehicles that the National Academies report, requested by Congress, shows are possible with existing technology. Together, these vehicles, in a fleet with the makeup of what the National Academies studied, would average 37 miles per gallon and would save consumers a net of $2,500 over their lives.

I fear, however, that if left up to the President, consumers are not likely to get relief from high gasoline prices. The President's recent rulemaking on light trucks will save less than 2 weeks' worth of gasoline each year for the next two decades.

Furthermore, the President's rulemaking applied to—applied size-based standards in a way that will lead to the erosion of even this small amount by encouraging automakers to market larger, lower fuel economy vehicles, and even allowing them to abandon some sectors of the market.

Congress can ensure that this erosion does not happen by requiring a fleet-wide fuel economy backstop of 37 miles per gallon when giving the President the authority to set size-based standards for passenger and nonpassenger automobiles. This target is based on the guidance requested by, and received from—requested by Congress and received from the National Academy of Sciences, and would cut oil dependence by 3.5 million barrels per day.

I'm sorry, one quick statement. I know my time is up, but I just wanted to point out that while the NAS study clearly states that fuel economy can be increased with no impact on safety of our cars and trucks, critics of fuel economy standards often make claims to the contrary. But these claims do not stand the test of the light when compared with three recent reports that have come out since the National Academy of Sciences study was released. They demonstrate that fuel economy is not linked with increased fatalities. Large vehicles do not have lower fatality rates compared to smaller vehicles. And increased weight is actually associated with increased fatalities.

At the end of the day, investing in fuel economy and efficiency to cut oil use is the best policy that we can apply to get savings over the next two decades. Congress should not defer its regulatory authority to the Administration, and it need not, as it can base fuel economy targets on the scientific research it requested. Congress can be confident that this is technically feasible, cost effective, and safe.

Thank you.
[The prepared statement of Mr. Friedman follows:]

PREPARED STATEMENT OF DAVID FRIEDMAN, RESEARCH DIRECTOR/SENIOR ENGINEER, CLEAN VEHICLES PROGRAM, UNION OF CONCERNED SCIENTISTS

Thank you, Mr. Chairman and members of the Committee, for the opportunity to testify before you today. My name is David Friedman. I am the research director and a senior engineer with the Union of Concerned Scientists' (UCS) Clean Vehicles Program. UCS is a nonprofit partnership of scientists and citizens that has been working at the intersection of science and policy for over 30 years.

The President could not have been more correct when he told the Nation that we are addicted to oil. Data from the Energy Information Administration indicates that we import over sixty percent of our oil and other petroleum products. Last year the cost of our oil and petroleum imports was equivalent to almost one-third of the United States trade deficit. At today's oil prices, we are sending more than $500,000 to other countries every minute just to purchase that oil and other petroleum products. In other words, every minute over one half of a million dollars that could have been spent creating U.S. jobs and strengthening our economy leaves this country. Forty percent of the oil dependence responsible for this is due to the 220 million cars, SUVs, minivans and pickup trucks we drive every day.

The cost of our addiction, however, does not end there. For each mile our cars, SUVs, minivans and pickups drive each year, another pound of global warming pollution (carbon dioxide equivalent) is released from the tailpipe. That means each vehicle produces six tons of global warming pollution from its tailpipe every year and the fleet of automobiles produces over 1,300 tons. Including the global warming pollution emitted in making the fuel required for these vehicles, the total impact represents about 1,700 tons of global warming pollution, more than most countries produce from their entire economies. Only the entire economies of the United States, China, and Russia exceed the global warming pollution resulting from our cars and trucks alone.

Since the time when Model T was first mass-produced, global warming pollution from cars and many other sectors throughout the world has increased carbon dioxide levels in the atmosphere to levels higher than the globe has experienced for the past 650,000 years. We are already seeing the impacts. Nineteen of the twenty hottest years on record (since 1880) have occurred since 1980. Five of the six hottest years have occurred just since 2000. As the problem accelerates, we will be forced to rename Glacier National Park as the glaciers disappear and dramatic impacts will be felt in lives and economies throughout the country and the world.

Ending the Addiction

As long as the United States is tied to oil, American's pocket books will be susceptible to instability in the Persian Gulf and other regions of the world. Rising oil consumption in China and other developing nations will only make matters worse. And as long as the United States is tied to fossil fuels, we will be contributing to many significant environmental problems that impact our health and our economy, especially the reality of global warming.

These facts make the destination clear—in the next fifty years, we must switch to clean, renewable fuels to power our cars and trucks—but the reality is that there are no silver bullets to tap into overnight. We will continue to be dependent on oil as a transportation fuel for decades to come. Yet we have the ability to dramatically lessen the addiction. There is reason for optimism if we put policies in place that ask both consumers and automakers to take the necessary steps to increase fuel economy and reduce travel. Both of these steps will also ensure that renewable fuels work in the long run, because if we keep increasing the amount of fuel we use, the alternatives will take up too much land, be too expensive, and may just lead to imports of alternatives from countries that are just as unfriendly towards U.S. interests as most oil producers are today.

Consumers can and must do their part by keeping their tires pumped up, getting regular vehicle maintenance, reducing travel through carpooling, taking transit when available, walking or biking if it is safe, combining trips, and purchasing the highest fuel economy car or truck that meets their needs. But the last step is very difficult in today's market. The average fuel economy of the fleet of new cars and trucks sold in the U.S. in 2005 was lower than it was in 1985. Automakers note the number of models on the market that get more than 30 miles per gallon on the highway, but they fail to mention that most of those are mid-size or compact cars and that consumers spend more of their time driving in congested urban conditions.

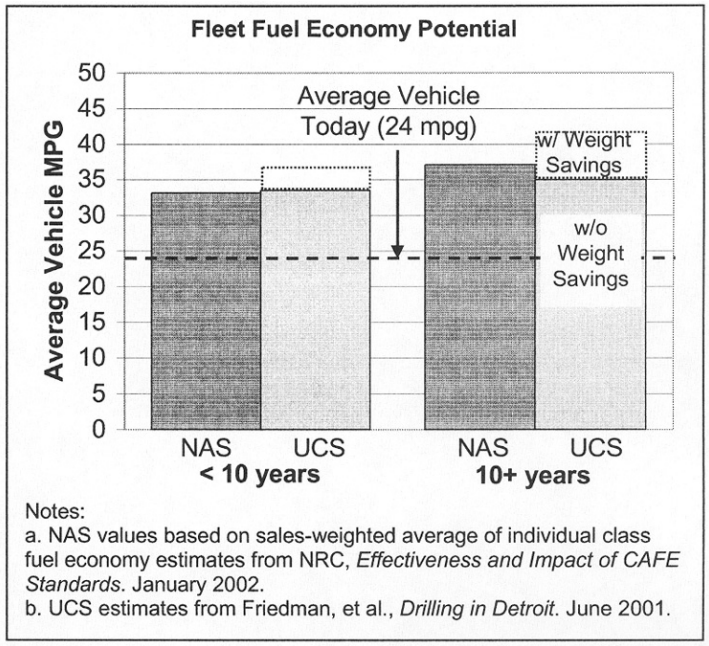
The answer to high gas prices, our oil addiction, and our warming planet is not limiting fuel economy choices as automakers have done, but rather giving consumers who do need vehicles of all shapes and sizes the safe, high fuel economy options they need to be able to find in the showrooms.

Consumer Choice

In the past, fuel economy standards have ensured that consumers could have higher fuel economy vehicles and not have to give up options. Just as we see today, automakers were not ready for the gasoline shortages and the price spikes that occurred in the early 1970s. As a result consumers jumped on the only option they had at the time, relatively poorly designed smaller cars. However, as fuel economy standards were fully phased in automakers switched from giving consumers poor choices to putting technology in all cars and trucks so consumers could have options in the showroom with 70 percent higher fuel economy than they had in 1975 (2005 EPA Fuel Economy Trends Report).

Today, consumers have vehicles that are larger and faster than they had in 1975, but they get higher fuel economy due to Corporate Average Fuel Economy Standards. If the fuel economy of today's cars and trucks was at the level the fleet experienced in 1975 instead of today's 25 miles per gallon, we would be using an additional 60 billion gallons of gasoline on top of the 140 billion gallons we will use this year. At $2.50 per gallon, that represents $150 billion saved. That number could have been much higher, however, if fuel economy standards had not remained essentially unchanged for the past two decades.

The fact that fuel economy standards have remained stagnant has yet again allowed automakers to set up consumers for a fall. With regular gasoline hovering around $3.00 per gallon, consumers have few good choices in the marketplace. Hybrids are now on the market and their sales are growing, but manufacturer production capabilities are very limited and will be slow to grow while the hybrids carry a higher price premium. What is lacking from the market is the over 40 mpg family car, the 37 mpg minivan, the 34 mpg mid-sized SUV, and the 30 mpg pickup. These are the vehicles that the National Academies report, requested by Congress, shows are possible with existing technology (Effectiveness and Impact of Corporate Average Fuel Economy (CAFE) Standards, page 38). Together in a fleet of the same make-up as the NAS analyzed, these vehicles would average 37 mpg. Over the life of these vehicles, consumers would more than pay for the cost of the technologies, saving a net of $2,500, essentially paying consumers to help cut our oil dependence and global warming pollution.



Notes:
a. NAS values based on sales-weighted average of individual class fuel economy estimates from NRC, *Effectiveness and Impact of CAFE Standards*. January 2002.
b. UCS estimates from Friedman, et al., *Drilling in Detroit*. June 2001.

All that is possible without hybrids, diesels, or high-strength materials, as the NAS study did not include these in their detailed technology evaluations. In fact, as noted in a February 9, 2005 press release from Resources For the Future regarding the former RFF President's statement before the House Science Committee, "[Paul] Portney, Chair of the National Research Council's Committee on Effectiveness and Impact of CAFE Standards, noted that, upon reflection, the Committee's 2001 report may have been too conservative in its fuel economy recommendations . . . 'It might be possible to meet more stringent fuel economy standards at lower costs than the Committee foresaw in 2001.'"

Union of Concerned Scientists' analysis of conventional technology, which included the NAS technologies as well as high-strength materials, indicates that such a fleet could go even farther. Examples of some of these technologies are shown in Figure 1 at the end of this document. A fleet that put these technologies to work could reach 40 mpg over the next ten years while providing the same size, acceleration and even improved performance compared to today's vehicles. Tapping hybrid and diesel technology could bring the fleet to more than 50 mpg by 2025.

Setting Standards and Presidential Authority

With the NAS study as its foundation, Congress can and should set a fleet-wide fuel economy target for all new cars, SUVs, minivans, and pickups at 37 miles per gallon within the next ten years. Congress should not defer its regulatory authority to the Administration and it need not as it can base such standards on the scientific research it requested. Congress can be confident that this is both technically feasible, cost effective, and safe. The engineers, scientists and other experts on the NAS CAFE panel noted that, ". . . it is technically feasible and potentially economical to improve fuel economy without reducing vehicle weight or size, and, therefore, without significantly affecting the safety of motor vehicle travel."

This committee has the opportunity to ensure that savings like these are realized in our near future. If Congress does not exercise this authority, consumers are likely to receive little relief from high gasoline prices. The president's recent rulemaking on light trucks will save less than two weeks of gasoline each year for the next two decades. Such a small amount will not make a significant dent in our oil addiction. Furthermore, the president's rulemaking applied size-based standards in a way that will lead to erosion of even this small amount. Improperly designed, size-based standards encourage automakers to market larger, lower fuel economy vehicles, and allow them to abandon some sectors of the market. In the 1990s we saw the impact of improperly designed class-based standards as automakers took advantage of the loophole allowing a lower standard for minivans and SUVs despite the fact that they are passenger vehicles and should have been included in that category instead of with pickups and cargo vans in the non-passenger category established by Congress. The result has been a decline in fleet-wide fuel economy from its peak of nearly 26 mpg in 1987 to 24.6 mpg in 2005 (EPA Fuel Economy Trends Report).

Congress can ensure that this erosion does not happen again by requiring a fleet-wide fuel economy backstop when giving the President the authority to set size-based standards for passenger and non-passenger automobiles. If Congress does only the latter, however, the benefits will be small to non-existent given the Administration's actions on minivans, SUVs and pick-ups.

Based on the guidance requested and received from the NAS, Congress should ask that the President put in place regulations to ensure that the average fuel economy of the fleet of new cars, SUVs, mininvans and pickups sold ten years from now be at least 37 miles per gallon. By doing this, Congress would be fulfilling its regulatory role by setting a fleet-wide fuel economy target that will cut oil dependence by 3.5 million barrels per day in 2025. In addition, setting a fleet-wide fuel economy target within the context of size-based standards would create a backstop that would ensure both that the oil savings are realized and that consumers will get the choices they will need in a world marked by continuing high and unstable gasoline prices and growing impacts of global warming.

Economic and Jobs Impacts of Setting Fuel Economy Targets

Contrary to claims by the auto industry, investments in fuel economy technology, just like other investments, will lead to prosperity. In order to quantify the benefits of actions to increase future fuel economy, UCS estimated the effect of moving existing technologies into cars and trucks over the next 10 years to reach an average of 40 miles per gallon (mpg) by 2015. Slowing down the timeline or reducing the fuel economy target would reduce the benefits, but for 40 mpg we found that:

- In 2015, the benefits resulting from investments in fuel economy would lead to 161,000 more jobs throughout the country, with California, Michigan, New York, Florida, Ohio, and Illinois topping the list.

- In the automotive sector, projected jobs would grow by 40,800 in 2015.
- For consumers, the cost of the new technology would more than pay for itself, saving a net $23 billion in 2015 alone.

Getting technologies like these into the fleet over the next ten years and then tapping into the growing potential of hybrid cars and trucks could get us to the point of saving five to six million barrels of oil per day by 2025 (Figure 2). That would be enough of a reduction in oil use to stop the current growth in oil demand and hold us where we are today while we wait for the breakthroughs that are needed for clean and renewable alternatives to oil. The new jobs would be created both because of investments in new technologies by the automakers and because consumers would shift spending away from gasoline to more productive products and services.

Requiring all automakers to improve fuel economy will increase the health of the industry. Companies like Ford and General Motors are currently in junk-bond status due to poor management decisions, not fuel economy standards, which have been stagnant for the past two decades. Those poor decisions have put them in a place where, just as in the 1970s, they do not have the products consumers need at a time of high gasoline prices, and they are continuing the slide in market share that began the first time they made this mistake.

In contrast to automaker claims, it is actually high gasoline prices, not technology investment, which will undermine the health of the domestic automobile industry. According to a recent study by the University of Michigan and the NRDC, a sustained gasoline price of $2.86 per gallon would lead Detroit's Big 3 automakers' profits to shrink by $7 billion as they absorb 75 percent of the lost vehicle sales as consumer budgets are squeezed compared to a scenario with gasoline at $1.96 per gallon. This would put nearly 300,000 people out of work in states like Indiana, Michigan, Ohio, Oklahoma, Texas and Wisconsin.

By requiring Ford, GM, and all automakers give consumers the choices they need, Congress can ensure automaker jobs stay in the U.S. and models like the Ford Explorer and Chevrolet Tahoe are still on the market ten years from now but they will go farther on a gallon of gas.

Safety Impacts of Setting Fuel Economy Targets

While the NAS study clearly states that fuel economy can be increased with no impact on the safety of our cars and trucks, critics of fuel economy standards often point to the chapter, which takes a retrospective look at safety. Despite the fact that this chapter did not represent a consensus of the committee (a dissenting opinion was included in the appendices) and the fact that three major analyses have since shown that fuel economy and safety are not inherently linked, claims are still made to the contrary.

First, David Greene (one of the NAS panel members) produced a report with Sanjana Ahmad in 2004 (The Effect of Fuel Economy on Automobile Safety: A Reexamination), which demonstrates that fuel economy is not linked with increased fatalities. In fact, the report notes that, "higher mpg is significantly correlated with fewer fatalities." In other words, a thorough analysis of data from 1966 to 2002 indicates that Congress can likely increase fuel economy without harming safety if the past is precept.

Second, Marc Ross and Tom Wenzel produced a report in 2002 (An Analysis of Traffic Deaths by Vehicle Type and Model), which demonstrates that large vehicles do not have lower fatality rates when compared to smaller vehicles. Ross and Wenzel analyzed Federal accident data between 1995 and 1999 and showed that, for example, the Honda Civic and VW Jetta both had lower fatality rates for the driver than the Ford Explorer, the Dodge Ram, or the Toyota 4Runner. Even the largest vehicles, the Chevrolet Tahoe and Suburban had fatality rates that were no better than the VW Jetta or the Nissan Maxima. In other words, a well-designed compact car can be safer than an SUV or a pickup. Design, rather than weight, is the key to safe vehicles.

Finally, a study by Van Auken and Zellner in 2003 (A Further Assessment of the Effects of Vehicle Weight and Size Parameters on Fatality Risk In Model Year 1985–98 Passenger Cars and 1985–97 Light Trucks) indicates that increased weight is associated with increased fatalities, while increased size is associated with decreased fatalities. While this study was not able to bring in the impacts of design as well as size, it helped inform NHTSA as they rejected weight-based standards in favor of size-based standards based on the vehicle footprint.

These studies further back up Congress's ability to set fuel economy targets of 37 mpg for the fleet in the next ten years without impacting highway safety.

Conclusions

Setting a fleet-wide target of 37 mpg in 10 years while giving the President the authority to reach that target through size-based standards will save consumers money, stimulate the economy, create and protect jobs and preserve the safety of our vehicles. All of these benefits will come in addition to cutting our oil dependence and emissions of global warming pollutants from our cars and trucks.

Investing in efficiency to cut oil use, the equivalent of eating right and getting more exercise, has been overlooked for the past two decades. Fuel economy technology has gone to double the power of our car engines and increase weight by 25 percent. Consumers are clearly happy with the size and acceleration of their vehicles today. We don't have to change that. But consumers are clearly unhappy with the cost of high gasoline prices and our economy and our environment cannot sustain the impacts of our oil addiction.

Congress has the opportunity to ensure that automakers spend the next 20 years using technology to curb our oil addiction. It should not be surprising that Congress is needed to play this role, the Federal Government has helped drive every major transportation revolution this country has seen, whether it was trains, planes, or automobiles. The next transition will be no different.

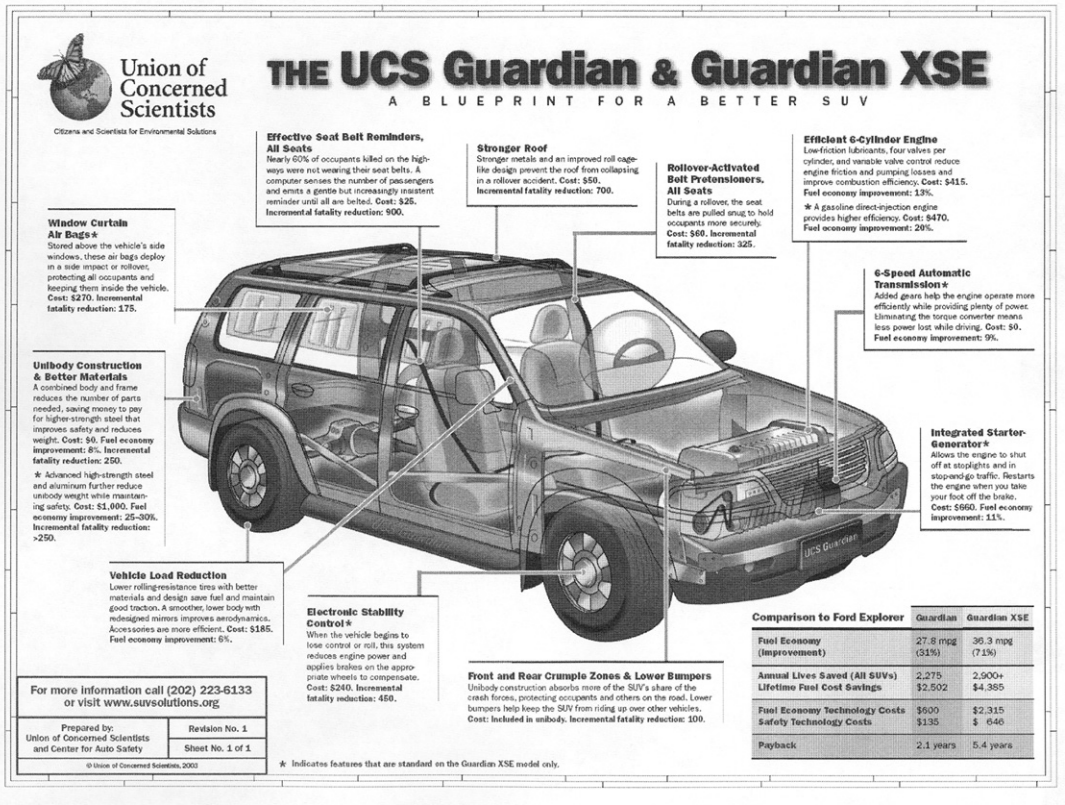
In addition to setting a fleet-wide fuel economy target of 37 mpg over the next 10 years, there are several different mechanisms the government could also put to work to help reduce oil usage. Among the viable options are:

- Enforceable, national oil savings targets
- Performance-based incentives for suppliers and manufacturers to produce higher fuel economy vehicles
- Eliminating the 60,000 vehicle cap on consumer incentives
- Incentives to increase alternative fuel production, including production targets, research and development, and infrastructure investments
- Incentives and requirements to increase efficiency of oil usage in the heavy duty transportation and industrial sectors
- Closure of existing loopholes in fuel economy regulations and tax laws

None of these options is a silver bullet. And some, if not all of them, are politically challenging. But by adopting a reasonable package that includes several of these measures now, we can reduce the trade deficit and create hundreds of thousands of new jobs, while steadily reducing our oil usage. And that's something I hope we can all support.

Thank you for the opportunity to testify today. I would be happy to answer any questions you may have.

Figure 1. Fuel Economy Potential for a Ford Explorer.



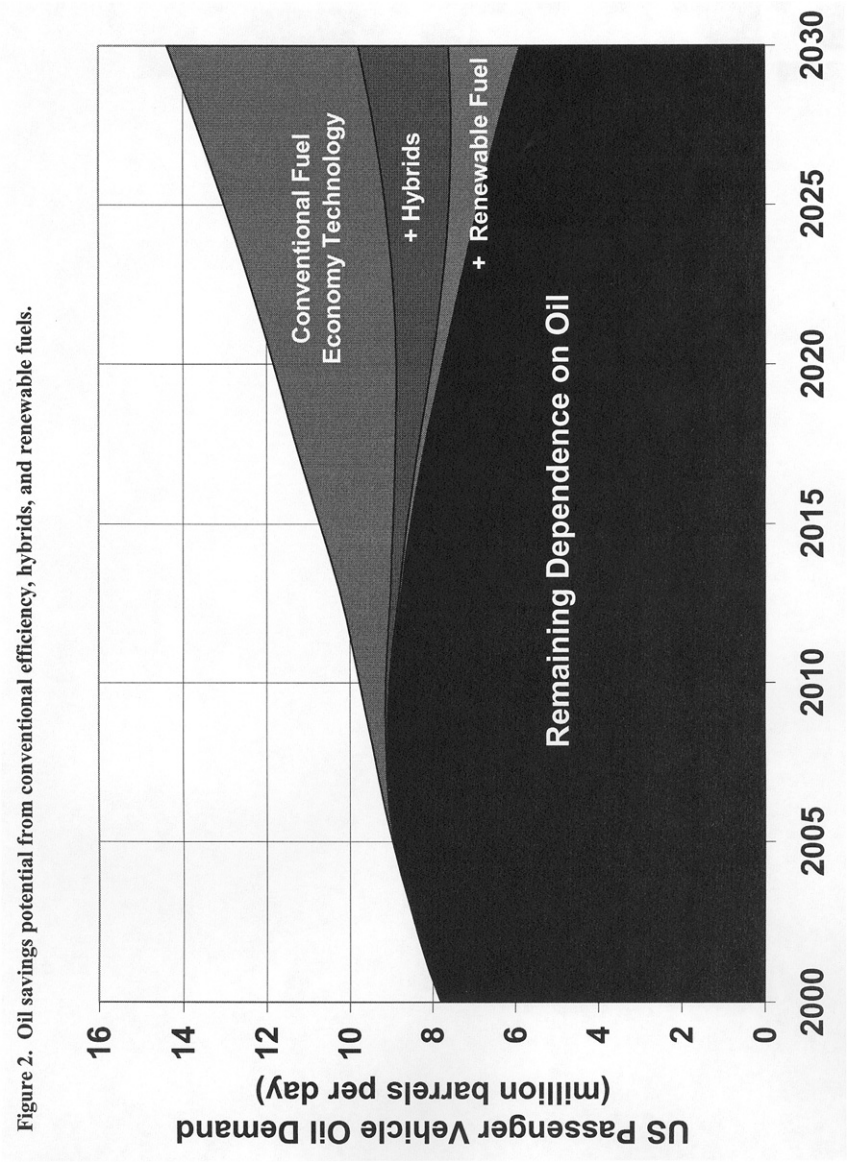


Figure 2. Oil savings potential from conventional efficiency, hybrids, and renewable fuels.

Senator LOTT. Thank you, Mr. Friedman.
Mr. Reuther?

STATEMENT OF ALAN REUTHER, LEGISLATIVE DIRECTOR, INTERNATIONAL UNION, UNITED AUTOMOBILE, AEROSPACE AND AGRICULTURAL IMPLEMENT WORKERS OF AMERICA (UAW)

Mr. REUTHER. Thank you, Mr. Chairman.

The UAW appreciates the opportunity to testify before this Committee on the subject of reforming the CAFE standards. We have repeatedly emphasized two important points about the CAFE program. First, we have urged that the structure of the program be modified to eliminate discrimination against full-line producers based on their product mix. In our view, all companies should be required to make similar efforts to improve fuel economy across their entire line of vehicles. Second, we have consistently emphasized the importance of retaining both the fleet-wide averaging and the two-fleet, the domestic and foreign, components of the passenger car CAFE structure. These two requirements ensure that full-line auto manufacturers must maintain small-car production in North America.

As a matter of national energy policy, we believe it is important for the U.S. to retain domestic production of smaller, more fuel efficient passenger cars. Furthermore, over 17,000 American workers are currently employed in seven U.S. assembly plants that produce small passenger cars. Almost 50,000 American workers produce parts for these vehicles. The jobs of these workers would be directly threatened by any CAFE proposals that undermine fleet-wide averaging and/or the two-fleet rule for passenger cars.

UAW recognizes that establishing an attribute-based CAFE system for passenger cars similar to the new light-truck system would have the benefit of eliminating the current discrimination against full-line producers. But it would also have the major down side of undermining fleet-wide averaging and the two-fleet rule, and, thus, would enable auto manufacturers to offshore all of their small car production and jobs.

Fortunately, the UAW believes there is an easy way to obtain the benefits of moving to an attribute-based CAFE system for passenger cars while avoiding the down side of losing our small-car production and jobs. Specifically, we urge Congress to impose an anti-backsliding requirement on any new CAFE rules that NHTSA would be authorized to promulgate for passenger cars. This requirement should specify that both domestic and foreign passenger car fleets for each auto manufacturer would still have to meet or exceed the CAFE standard under the current system. This anti-backsliding benchmark should be increased in line with overall fuel economy improvements. The adoption of this type of anti-backsliding requirement would prevent companies from offshoring their small-car production and jobs. It would also ensure that the auto manufacturers cannot subvert the objective of any new CAFE system by upweighting or upsizing many of their vehicles, resulting in worse overall fuel economy.

In conclusion, we look forward to working with this Committee as you consider proposals to improve fuel economy.

Thank you.

[The prepared statement of Mr. Reuther follows:]

PREPARED STATEMENT OF ALAN REUTHER, LEGISLATIVE DIRECTOR, INTERNATIONAL UNION, UNITED AUTOMOBILE, AEROSPACE AND AGRICULTURAL IMPLEMENT WORKERS OF AMERICA (UAW)

Mr. Chairman, my name is Alan Reuther. I am the Legislative Director for the International Union, United Automobile, Aerospace and Agricultural Implement Workers of America (UAW). The UAW appreciates the opportunity to testify before

this Subcommittee on Reforming Corporate Average Fuel Economy (CAFE) standards.

The UAW represents 1.1 million active and retired workers across the country, many of whom work or receive retirement benefits from auto manufacturers or auto parts companies. We were deeply involved in the original enactment of the CAFE program, and continue to have a very strong interest in this program because of its major impact on automotive production and employment in this country and the jobs and benefits of our members.

The UAW strongly supported the establishment of the CAFE program, and we support continuation of this program as an essential mechanism for improving fuel economy and reducing our dependence on foreign oil. We have previously stated, and continue to believe, that modest increases in the CAFE standards over time are technologically and economically feasible.

However, the UAW has repeatedly emphasized two critically important points about the CAFE program. First, we have urged that the structure of the CAFE program be modified to eliminate discrimination against full-line producers based on their product mix. In our view, all companies should be required to make similar efforts to improve fuel economy across their entire line of vehicles. Because of this, we have strongly opposed legislative proposals that would have a discriminatory impact on full-line producers, and therefore jeopardize the jobs and benefits of tens of thousands of active and retired workers.

Second, we have consistently emphasized the importance of retaining *both* the fleet-wide averaging and the two-fleet (domestic and foreign) components of the passenger car CAFE structure. The fleet-wide averaging requirement provides important flexibility to automotive manufacturers, while ensuring that the CAFE standards produce an overall improvement in fuel economy. Furthermore, the combination of fleet-wide averaging and the two-fleet requirement ensures that full-line auto manufacturers must maintain small car production in North America. This is because the production of smaller, more fuel efficient vehicles is needed to offset the production of larger, less fuel efficient vehicles.

As a matter of national energy policy, we believe it is vital that the U.S. retain domestic production of smaller, more fuel efficient passenger cars. As we have all witnessed, sharp increases in gas prices can lead to shifts in consumer demand towards smaller, more fuel efficient vehicles. Unless we retain domestic production of such vehicles, consumers interested in this segment of the market could be forced to purchase foreign-made vehicles.

Over 17,000 American workers are currently employed in seven U.S. assembly plants that produce small passenger cars. This includes GM, Ford, DCX, Mitsubishi and NUMMI plants in Lordstown (Ohio), Wilmington (Delaware), Spring Hill (Tennessee), Wayne (Michigan), Belvidere (Illinois), Bloomington (Illinois) and Fremont (California). Almost 50,000 American workers produce parts for these vehicles. The jobs of these workers would be directly threatened by any CAFE proposals that undermine fleet-wide averaging and/or the two-fleet rule for passenger cars. In addition, the loss of these jobs would inevitably have a negative ripple effect on the rest of the economy.

NHTSA recently released final rules establishing new CAFE standards for light trucks. These rules require modest improvements in light truck fuel economy, and also establish a sized-based CAFE system for light trucks. The UAW supported these rules for several reasons. We believed the magnitude and timing of the proposed increases in light truck fuel economy were feasible. We were also very pleased that the size-based CAFE system eliminated the discriminatory impact on full-line producers. At the same time, because the old light truck CAFE standards did not contain any two-fleet rule, there was no threat to the continuation of small truck production and jobs in the United States. Furthermore, because the new rules only dealt with light trucks, not passenger cars, and did not change the definitions of what is a "passenger car" and what is a "light truck," there was no threat to small car production and jobs in this country.

The UAW believes that NHTSA already has the authority to raise the flat MPG requirement in the current CAFE standards for passenger cars, and that legislation is not needed to enable it to go forward in this manner. However, in his recent letters to Congress, Secretary Mineta made it clear that the Department of Transportation *also* wants Congress to give NHTSA the authority to change the structure of the passenger car CAFE system to an attribute-based system similar to the new structure that has been implemented for light trucks. There is general agreement among the various stakeholders in the fuel economy issue that NHTSA does *not* currently have this authority, and that authorizing legislation would be required before such structural changes in the passenger car CAFE program could be adopted.

The UAW recognizes that establishing an attribute-based CAFE system for passenger cars similar to the new light truck system would have the benefit of eliminating the current discrimination against full-line producers. We would strongly applaud this development.

However, it would also have the major down side of enabling auto manufacturers to offshore all of their small car production and jobs. This would happen due to the elimination of the two-fleet rule. But even if this rule was retained, the companies would still be able to offshore their small car production and jobs due to the shift from a uniform, flat MPG fleet-wide requirement for all companies to a pure attribute-based system.

Some commentators have tried to dismiss concerns about the loss of small car production by arguing that the companies will simply substitute large car production at these facilities, leaving the overall production and employment levels unchanged. This ignores the harsh reality that there currently is significant over capacity in the auto industry. The UAW submits that the real world impact is that certain companies would take advantage of the change in the CAFE rules to further downsize their operations. The net result is that small car facilities would be closed, and tens of thousands of automotive jobs would be lost, without any compensating replacements with large vehicle production and jobs.

Fortunately, the UAW believes there is an easy way to obtain the benefits of moving to an attribute-based CAFE system for passenger cars, while avoiding the down side of losing our small car production and jobs. Specifically, the UAW urges Congress to impose an "anti-backsliding" requirement on any new CAFE rules that NHTSA would be authorized to promulgate for passenger cars. This requirement should specify that both the domestic and foreign passenger car fleets for each auto manufacturer would still have to meet or exceed the CAFE standard under the current system (i.e. the 27.5 flat MPG fleet-wide standard). This "anti-backsliding" benchmark should be increased in line with the overall fuel economy improvements required under any attribute-based passenger car CAFE system.

The adoption of this type of "anti-backsliding" requirement would prevent companies from offshoring all of their small car production and jobs. This would help protect the jobs of tens of thousands of American workers. It would also guarantee that we continue to maintain domestic production capacity for smaller, more fuel efficient vehicles.

This type of "anti-backsliding" requirement also would ensure that the auto manufacturers cannot subvert the objective of any new CAFE system by "up-weighting" or "up-sizing" many of their vehicles, resulting in worse overall fuel economy. It would guarantee that the companies will actually improve fuel economy across the entire range of their passenger cars, and that consumers and our Nation will indeed receive the benefits of more fuel efficient vehicles.

The imposition of this type of an "anti-backsliding" requirement would not be burdensome for the auto manufacturers. If the companies are genuinely taking steps to improve fuel economy across their entire range of passenger vehicles, and if they do not shift small car production overseas, they should easily be able to meet this requirement.

Thus, the UAW would support legislation that authorizes NHTSA to establish an attribute-based CAFE system for passenger cars similar to the recently promulgated rule for light trucks, *provided* this is coupled with an "anti-backsliding" requirement that protects small car production and jobs in this country and prevents up-weighting or up-sizing of cars. If this type of "anti-backsliding" requirement is not included, then we would vigorously oppose such legislation.

In addition to imposing an "anti-backsliding" requirement on any new passenger car CAFE rules, the UAW urges Congress to specify that such rules should only take effect in 2012 or later, after the new light truck CAFE rules have been implemented. In light of the serious economic difficulties currently facing certain auto manufacturers, we believe it is important to avoid placing undue regulatory burdens on the industry. The auto companies will have to make significant investments to meet the challenges posed by the new light truck CAFE rules. In our judgment, these burdens should not be compounded by simultaneously requiring changes in passenger car CAFE rules. By delaying the effective date of any new CAFE rules for passenger cars, NHTSA can gain the benefit of valuable experience in the implementation of the size-based CAFE system for light trucks. This will also ease the financial burdens on the auto manufacturers.

The UAW recognizes that there are other important issues associated with any shift to an attribute-based system of CAFE rules for passenger cars. This includes whether this type of a system should be based on weight, size or some combination of factors. We believe that resolution of these complex issues can best be resolved through the administrative rulemaking process.

We understand that some persons have also called for the adoption of a "credit trading" system that would allow auto manufacturers to buy and sell CAFE credits for passenger cars and/or trucks. The UAW strongly opposes such proposals, and urges Congress not to give NHTSA any authority to establish this type of a credit trading system. A system for trading CAFE credits would inevitably have the effect of undermining the two-fleet rule and/or fleet-wide averaging, and would therefore jeopardize the continuation of small car production and jobs in the United States. It could also aggravate the uneven playing field that currently exists between foreign and domestic auto manufacturers.

The UAW believes it is important for Congress to recognize that changing the CAFE standards for passenger cars, by itself, will not solve either the immediate problem of high gas prices or the larger problems of energy security and environmental protection. Because of the long lead time needed to implement any changes in CAFE, there clearly will not be any impact whatsoever on current gas prices. Furthermore, light duty vehicles (passenger cars and light trucks) only account for 40 percent of oil demand in 2006. Passenger cars account for less than half of light-duty vehicle sales, and new passenger cars sold each year represent a very small percentage of the total vehicle stock on the road. Thus, changing the CAFE standard for passenger cars would, over five years, only moderate demand from a source comprising less than 10 percent of our Nation's oil use. In order to significantly reduce our oil usage and our dependence on foreign oil, clearly there is a need for broader national energy policies.

The UAW submits that these critically important energy security objectives do not have to be at odds with the goal of protecting and creating jobs for American workers. Indeed, we firmly believe our Nation can make substantial progress in improving fuel economy and reducing our Nation's dependence on foreign oil, and at the same time help make sure that we keep and expand automotive jobs in this country.

The UAW urges this Subcommittee, the entire Congress and the Bush Administration to support energy initiatives that further both of these important objectives. Specifically, we urge Congress and the Bush Administration to move forward with proposals to encourage the domestic production of advanced technology vehicles and their key components. We believe great strides can be made in improving fuel economy and reducing our dependence on foreign oil by accelerating the introduction of such vehicles. But, as was demonstrated by a November 2004 study conducted by the Office for the Study of Automotive Transportation (OSAT) of the University of Michigan Transportation Research Institute, and commissioned by the bipartisan National Commission on Energy Policy, the United States will lose tens of thousands of automotive jobs unless steps are taken to encourage the domestic production of these vehicles and their components. Currently, most of the advanced technology vehicles are assembled overseas, and almost all of the key components for the hybrid and diesel vehicles are built overseas. As these vehicles gain a larger share of the market, we will inevitably lose automotive jobs unless we make sure that these vehicles are assembled in the U.S. and the main components are also built here.

We are very pleased that proposals along these lines have already been introduced by Members on both sides of the aisle, including the Bayh-Lieberman-Brownback-Lugar (S. 2025); Obama (S. 2045); Conrad (S. 2571) and other bills. The UAW submits that the types of manufacturer's incentives in these bills can help to create thousands of automotive jobs for American workers, while at the same time improving fuel economy, reducing global warming and our dependence on foreign oil.

The UAW also urges Congress and the Bush Administration to move forward with proposals to aggressively promote the production, sale and use of alternative fuel vehicles. Several automakers are already producing vehicles that can run on a blend of 85 percent ethanol, 15 percent gas. This technology is relatively inexpensive—about $150 per vehicle. But production and sales of flex-fuel vehicles represent only a small fraction of the market. And the actual use of alternative fuels has been hampered by bottlenecks in processing and, more importantly, the lack of a distribution network. The UAW believes these problems can be overcome by mandating that a certain percentage of all vehicles sold in the U.S. by each automaker must be flex-fuel capable by a specified date. Indeed, there's no reason why automakers can't make 100 percent of their vehicles flex-fuel capable within a reasonable time frame. We also believe that there should be additional incentives to encourage the creation of more processing plants to increase the supply of alternative fuels, and to encourage the conversion of existing filling stations so they have the capability to distribute alternative fuels. In our judgment, this combination of flex fuel policies offers the best opportunity to make progress in the near term on reducing oil consumption and our dependence on foreign oil.

In conclusion, the UAW looks forward to working with this Subcommittee as you consider proposals to improve fuel economy. Thank you for considering our views on these important issues.

Senator LOTT. Well, thank you very much, panel. And we will have some time for questions now. I hope you all can stay with us another 15 minutes, at least, or so.

Senator Cantwell?

Senator CANTWELL. Thank you, Mr. Chairman.

Mr. Friedman, you used a "60 percent dependent on foreign sources" number. I thought our number was 50 percent. So, if you could just tell me where you got that.

Mr. FRIEDMAN. Well, that's based on February imports and total consumption from the Energy Information Administration.

Senator CANTWELL. OK. And can you comment on this? My colleague Chairman Lott and I worked on this EPA accuracy-of-labels issue. In fact, maybe Ms. Claybrook wants to comment on that, as well. But *Consumer Reports* have been conducting mileage tests for years. And what happens is, consumers go out, and they think they're buying a car that is more fuel efficient—for example, EPA says that the Chrysler 4-wheel-drive diesel version of the Jeep Liberty gets 22 miles per gallon, and yet, in *Consumer Reports,* it only got 11. The Chevy TrailBlazer was supposed to get 15 miles; it only gets 9. And there are various examples of that. So, how do we—and we were successful in getting EPA to say that they were going to update this test, which hasn't been updated since, I think, the 1970s—how do we marry that with CAFE so that we're getting an accurate assessment?

Mr. FRIEDMAN. Well, right now the way the regulations—the way the law is written, the fuel economy standards are based on the tests that were used in 1975. And clearly we know those tests do not work anymore. Consumers know it. The average acceleration on those tests is the equivalent of going from zero to 60 in 18 seconds. So, those tests are clearly broken. And EPA does look to be finding ways to fix that for the window stickers. But the way the regulations are written, that fix cannot legally be applied to the fuel economy standards. That statute would have to change in order for the fuel economy standards to also be based on what consumers are actually getting in the marketplace.

Senator CANTWELL. And I'm assuming you think we should do that.

Mr. FRIEDMAN. Well, it only makes sense for both consumers and the Government and automakers to be judging their vehicles based on the real fuel economy they get, rather than what's—incorrect tests would produce. Definitely.

Senator CANTWELL. Ms. Claybrook, did you want to comment on that?

Ms. CLAYBROOK. I completely agree. I think it's very confusing to have two different sets of numbers. And, I think that if you adjusted the standard numbers to reflect reality, without increasing them in the course of doing that, so they adjust for the equivalent of what they are today, but they're real numbers, then that wouldn't have any adverse impact, in terms of what the auto manufacturers would be concerned about. And then, from there you make your calculations about how much of an increase you could

get. I know we're all wedded to the 40 miles per gallon in 10 years, and the 27 and a half, we'll just have to learn again and readjust. But I think it should be done.

Senator CANTWELL. Thank you.

Mr. Webber, I see your finger poised for the button there, but if I could ask you to also comment on your infrastructure comment and the fact that we have an infrastructure issue as it relates to alternative fuel products. And if you have any recommendations on that.

Mr. WEBBER. First, on labeling, we supported your effort to reform the system. And I'm glad it's underway. It needs reform. The consumer deserves to know.

Senator CANTWELL. But you—do you—but what about—as——

Mr. WEBBER. On infrastructure——

Senator CANTWELL. No, creating—the gap between the labeling and the fact that it can't be used for CAFE. Do you support changing that, so that they're the same?

Mr. WEBBER. I would like to study that. We haven't taken a position on that particular aspect of it.

Senator CANTWELL. OK.

Mr. WEBBER. But we do know that the present system is somewhat misleading.

Senator CANTWELL. OK.

Mr. WEBBER. On infrastructure—and I am focusing now on ethanol, and I'll just give you some statistics—if we have over 180,000 gasoline stations out there today, only about 650 will offer you E–85 ethanol fuel. We have 5 million vehicles on the road today—we'll have 6 million by the end of the year—that can burn E–85. So, that's a big gap, and that has to be made up. And it's part of our shared responsibility theory, that, in order to get that done, we're going to need a lot of help from the fuel industry, from the government at all levels. That's got to change.

Senator CANTWELL. And do you have any specifics there that you—that your association supports today?

Mr. WEBBER. No specifics. We've identified the problem. We've talked, in general terms, about how it might be fixed. I met with a group of lieutenant Governors recently, and, when I quoted those numbers to them, they said, "We've got to fix it. We think there's a role in it for State government." But we have yet to really get down to the basics on it. But it's a real problem.

And, in the meantime, our companies—many of our companies are moving out rather smartly and producing E–85-capable vehicles.

Senator CANTWELL. Thank you.

Mr. Reuther, on that point, on the E–85 vehicles that have already been in the marketplace, and obviously being successfully used in other countries like Brazil, what is technically required, and how much does that cost, to actually add that ability for cars manufactured in the United States to run on either ethanol or on fossil fuels?

Mr. REUTHER. It costs about $150 per vehicle. It's a very modest cost. The technology is known. This is something that's easily doable. And we feel that moving ahead aggressively with flex-fuel ve-

hicles is probably the best short-term thing we could do to save and reduce oil consumption.

Senator CANTWELL. And so, auto manufacturers are ready to go on that, or they need—or are you recommending something to help that acceleration?

Mr. REUTHER. Well, the companies are moving ahead with that. We would support a mandate, by a date certain, requiring that a certain percentage of vehicles sold have to be flex-fuel vehicles, since it is a modest cost and since the technology is known. We think the bigger challenge is making sure that the distribution network is there, and we would support additional incentives to encourage that to happen.

Senator CANTWELL. Thank you very much.

Ms. CLAYBROOK. Could I comment on that, just briefly?

Senator LOTT. Briefly.

Ms. CLAYBROOK. Very briefly.

Right now, in the law there is a credit to the manufacturers to encourage them to manufacture the flex-fuel vehicles. And I think that maybe that was appropriate initially, but it hasn't really made any difference, in terms of use of alternative fuels or oil savings because of the ethanol distribution system. And it does seem to me that a mandate is far preferable to this willy-nilly system of getting credits. And, also, the credits undermine the amount of fuel economy that the manufacturers actually produce for each such vehicle.

Senator LOTT. Senator Lautenberg?

Senator LAUTENBERG. Thanks very much, Mr. Chairman. This has been a very instructive panel, as I heard it, and including discussion with the Secretary of Transportation, before.

It seems that we're pretty much at odds with whether you can or you can't. Is it—what is—what would deter Congress from setting a fuel efficiency mark for the industry and saying, "Meet that standard"? Is there anything in law—I understand what you said, Ms. Claybrook, about reforming the whole system—or one of you did—but there's nothing, as I see it, that would prevent the—NHTSA from saying, "Here's what you've got to do." Am I wrong?

Ms. CLAYBROOK. Well, no, the issue here, and the reason that the President came forward, is that under the existing statute it says that the agency can set a standard above 27 and a half miles per gallon with a Congressional veto. Public Citizen got the Congressional veto overruled in the Supreme Court in 1983. So, there is no longer a Congressional veto. The legal question is: "Is there still authority to raise the standards?"

Our view is that we're not sure. We don't know what the Court might say. But we think that it would be preferable to have the authority vested in the agency, so there wouldn't be any more lawsuits on this issue, and so that the agency would have authority to set higher standards.

There's no reason that they couldn't set a standard out some distance so that the industry has long-term notice, you know, 8 or 10 years. But I don't think that the agency's going to do that. And so, that's the reason that we, and the environmental groups and a number of other organizations, favor a longer-term standard that's very reasonable, based on what EPA has predicted is feasible, and set a standard so that there's a goal——

Senator LAUTENBERG. Thank you.

Ms. CLAYBROOK.—that would be achieved.

Senator LAUTENBERG. Mr. Friedman, does the union support lifting of the tariffs on the imports of ethanol, like the Brazilian formulation, at least until we can supply the—supply it domestically?

Mr. FRIEDMAN. Well, we currently do not have a position on tariffs relative to ethanol. Part of the reason for that is that the largest impact that we can have over the next 20 years in cutting our oil dependence is clearly fuel economy. We did an analysis where we looked at what would happen if we put the pedal to the metal on both fuel economy and ethanol. And what we found is, over the next 20 years, 70 to 80 percent of the reductions in oil dependence would come from "eating right and getting more exercise"; 20 to 30 percent would come from "eating better foods and getting new fuel"——

Senator LAUTENBERG. You're not talking about the weight in the car, right? Are you? You say reduce passenger weight, and that'll save us?

[Laughter.]

Mr. FRIEDMAN. Exactly. We're talking about "eating right and getting more exercise," in terms of putting——

Senator LAUTENBERG. Right, but——

Mr. FRIEDMAN.—the technology that the——

Senator LAUTENBERG.—we can't——

Mr. FRIEDMAN.—automakers already have.

Senator LAUTENBERG.—solve that problem here.

Mr. FRIEDMAN. Right.

Senator LAUTENBERG. I, personally, tried that.

[Laughter.]

Mr. FRIEDMAN. You should be commended for that.

[Laughter.]

Senator LAUTENBERG. Are you concerned that the potential for ethanol plants might be built with coal-firing?

Mr. FRIEDMAN. Well——

Senator LAUTENBERG. And could that cancel out some of the benefits that we'd be getting?

Mr. FRIEDMAN. That's the tricky thing with silver bullets. There are smart ways to do alternatives, there are smart ways to do ethanol, and there are poor ways to do ethanol. Studies show that if you base your ethanol production from corn heavily on fossil fuel production to make that ethanol, you could actually increase global warming pollution and potentially even increase oil dependence. But if you make ethanol right, from corn, for example, you could cut greenhouse gas emissions by on the order of 10 percent. If you make ethanol from grasses, wood chips, other cellulosic products, you could actually cut your global warming pollution by 80 percent. But it's all about making sure you do it the right way, not the wrong way, which is why we would support regulations that would require—if E–85 is going to be on the market, that we need to have a growing percentage of that fuel coming from the cleanest sources out there. We need performance-based standards for fuels, as well as for vehicles.

Senator LAUTENBERG. Without starting a firestorm here, sitting next to my colleague from Arkansas and various other center-coun-

try states, what about—is there a major difference in the efficiency of the ethanol that's produced, as we're reading a lot about now, in Brazil from sugarcane, and that which is grown from corn or produced from corn?

Mr. FRIEDMAN. Well, sugarcane does have some added benefits, in terms of global warming pollution. It's somewhere in between corn and switchgrass and other woody products. I think the reality here is, we do need to tap into all the alternatives that we can, but alternative fuels, while very promising, are still going to take 20, 30, potentially, depending on the fuel, even 40 years before they're going to have a major impact. We can't afford to wait that long. Fuel economy can actually be a buffer so that we can figure out the technologies, so that we can get the best fuels out there for consumers.

Senator LAUTENBERG. I'm determined to wait until that's proven. Thank you very much.

Senator LOTT. Thank you very much, Senator Lautenberg.

Let me ask a couple of questions here, if I could. Mr. Webber, do you have a position on including CAFE credits in a future CAFE program for passenger cars?

Mr. WEBBER. Yes, sir. We think that that ought to be studied, and not ought to be part of the request, or whatever you decide to grant the Administration, in terms of restructuring authority for CAFE. On the surface, it looks like an easy solution, but it's more complicated than that. We think, though, it does warrant study. And who knows what the future will hold for it?

Senator LOTT. Well, I think you need to study it, and you need to be prepared to take some positions on it as we——

Mr. WEBBER. And we will.

Senator LOTT.—go forward.

Mr. WEBBER. Yes, sir.

Senator LOTT. Mr. Reuther, now. I'm sorry, I had to leave the room, and I missed part of your testimony, but I want to make sure you do advocate, on behalf of your union, that this authority should be given to the Secretary, and we should move forward with the changes, including the reform. Is that correct?

Mr. REUTHER. Only if there's a requirement that they must include an anti-backsliding provision in any new standard. If that is not included, then we would oppose giving the authority to the Administration to move forward with an attribute-based system.

Senator LOTT. All right, sir.

Mr. Cabaniss, now, your testimony indicates that the two-fleet rule may actually have cost jobs in the United States. Do you want to make any comment on the two-fleet rule?

Mr. CABANISS. Yes, sir. The point there is, that the two-fleet rule has actually had the unintended consequence of creating disincentives for foreign-based manufacturers to increase the content of the vehicles they manufacture here in the United States. And, as I mentioned earlier, today we have approximately a 4-million-vehicles-per-year capacity in the United States. We believe there's every incentive—especially with the need to conserve fuel, the need to address greenhouse gases, and so on—there's every reason to believe that we need to have as much production here in the United States for all manufacturers for fuel-efficient vehicle options. And

so, it's counterproductive to have that kind of disincentive in the Act.

There have even been cases where vehicle content of domestically produced vehicles has been reduced in order to deal with this accounting of having vehicles in the import side versus the domestic side. And those kinds of de-contenting decisions take away jobs, and not only direct jobs, but also have supplier impacts, as well.

Senator LOTT. Congressman——

Mr. SHARP. Mr. Chairman?

Senator LOTT.—Congressman Sharp, if I could go to you, thank you for the time you've spent with these outside groups since you left the Congress. I'd like to get your view about the CAFE regulation for light trucks. Was this a positive move? Did it work well? Is it going to work well, in your opinion?

Mr. SHARP. Well, first of all, we don't have——

Senator LOTT. It's been panned a good bit here.

Mr. SHARP.—real experience with it yet. It's——

Senator LOTT. Yes.

Mr. SHARP. It hasn't actually taken effect, in terms of——

Senator LOTT. Yes.

Mr. SHARP.—the choice that the manufacturer makes between the old style and the new style. One of our economists at our Resources for the Future, however, did look at it, and I have attached to my testimony some of the favorable propositions that he identified about this redesign. It does pattern after a redesign possibility that was in the National Academy of Sciences proposal where it suggested a weight-based standard phased in a similar way. There is one element of the National Academies study that I think it would be wise for your staff to go back and look at, and that was a design feature that would, in a sense, cap off how bad it could get if you allowed this to go to the degree that Joan Claybrook is concerned it will. And so, there are some other features that can help solve that.

I think there are a lot of questions out there as to how aggressive they, in fact, were in the numbers that they picked. And I think, given, especially, the fact that the price of gasoline is up, that one might have made a different calculus, and, therefore, come up with higher requirements.

Senator LOTT. Do you think, though, that the approach taken in that rule, perhaps with some strengthening, could be applied to passenger cars?

Mr. SHARP. I think that's possible, but I'm not the expert on that.

Senator LOTT. OK. Right. Well, just in conclusion, because my time's running out, too, and we'll want to go to Senator Pryor, I want to thank this panel. It's been a very interesting presentation. You know, two or three observations. One, there's always a desire—well, you can do—should do more, could do more—here's my point. We should have done more. A long time ago, across the board, in a whole lot of areas. But that's no reason why we shouldn't act now. Whatever we might want to do in the future, if we don't get started now, we're not going to be there. And on ANWR, if we had not vetoed it 10 years ago—we would be getting oil or gas from ANWR. If we want to get some better fuel efficiency

standards, let's start now. It may not be as much as you'd like for it to be, but I'd like to think about getting as much as we can.

I was in a rural State this past weekend, on Sunday afternoon, and the road was just jammed with cars. And no trucks. This was Sunday afternoon. And I'm thinking, "What the heck is going on here?" People are mad about gas prices. And yet, they were all out there in their cars, in the rain. It wasn't Sunday afternoon driving to see the scenery in Kentucky. They weren't going to a ball game. It was too early to be going to church. They weren't taking the kids to school. They weren't going to work. What in the heck were they doing?

So, one of the things I always say in my remarks now, while we're always pointing fingers at each other, whether it's Republicans or Democrats, Executive Branch, the oil companies, automobile—hey, we've met the enemy, and it is us. We, the people. And one of the things I think I miss in some of these comments here—we're talking about, OK, look, here's our view, and here we are in the Congress. We're going to impose our view on the people. Somebody better give some thought to what are the people going to demand? You're not going to make the people drive a Mini Cooper. They may choose to drive a big old truck. We can impose our judgment, but the American people don't have to necessarily comply with that. So, I just hope that we keep touch with reality. Can we push the envelope? Can we lead the people in a responsible way? Hopefully. But I think we've got a lot of work to do, in terms of bringing the people along to where we maybe need to be in 10 years. And I don't think we've made much progress there. And that's why I did my column last week, basically saying, "Hey folks, you can't have cheap gas, big hog automobiles, and not want a refinery in your neighborhood, don't want any more nuclear plants, don't want hydro plants. You don't want anything. You just want cheap gas. You can't have it all, all three of those simultaneously." So, we've got to start making some choices here. Of course, I prefer the latter option. I want more refineries. I want LNG plants. I want more hydro plants. I want nuclear plants. I want more production. Now, my concession to those with a different point of view is, "Hey, I think we ought to have conservation. I think we ought to have alternative fuels. I think we need to look for all kinds of options." And so, I want the whole package. I don't think it's all production or all conservation. I don't think CAFE's going to solve all the problems of the world, but, let's do it all, in a responsible way.

Now, those words, "responsible way," is the kicker. It's in the eye of the beholder. And I think we need to try to look for that sweet spot. And we haven't found it for 30 years. But the chickens are going to come home to roost on all of us. And if we don't find some answers soon, I dread the thought of what's going to happen.

Thanks for allowing me to make a speech here.

Senator Pryor?

Senator CANTWELL. Mr. Chairman, what kind of car was that, that the American people don't want to drive?

Senator LOTT. A Mini Cooper—which, by the way, I have one.

[Laughter.]

Senator LAUTENBERG. Mr. Chairman, could it have been the Kentucky Derby that people were coming home from after——

Senator LOTT. Actually, my son and grandchildren live in Kentucky, so—was there—what event was that?

[Laughter.]

Senator PRYOR. Thank you, Mr. Chairman.

Mr. Reuther, let me start with you, if I may. And you said something a few moments ago that was intriguing, and that is your "anti-backsliding requirement." Could you explain that a little further to the Committee?

Mr. REUTHER. We think that if there is going to be a shift to a size-based system for cars, there should be a requirement that the foreign and domestic fleets of each company cannot slip back below what the current standard is. There would be two benefits to that. It would guard against the companies generally upweighting or upsizing all of their vehicles, and, as a result, they would wind up with worse overall fuel economy. From our perspective, the other key benefit would be it would prevent the full-line auto manufacturers from offshoring all of their small car production, which would have a huge negative jobs impact on this country.

And I would disagree with the statements that were made earlier about how that would actually add jobs. The major impact of getting rid of the two-fleet rule would be that we would see the loss of small car production in this country.

Senator PRYOR. OK, thank you.

Mr. Friedman, let me ask you about the idea of an anti-backsliding provision. Do you like that concept?

Mr. FRIEDMAN. Well, I think if you're going to put in place size-based standards, you have to have an anti-backsliding system. In fact, what you should really do——

Senator PRYOR. And, by the way, as I understand it, you do not like size-based.

Mr. FRIEDMAN. A size-based system can work if you have an overall fleet-wide target, which would take the form of something like an anti-backsliding system. I think we shouldn't look to the past, of where we have been. I think we should look to the future, on where we can go with technology, and set that anti-backsliding level, that fleet-wide goal, at a level that we could reach in the future. If you do that, then Ford, GM, all the automakers can give consumers the choices they need, but Congress will be ensuring that in the end we save the oil that we have to save if we're going to reduce the impact of our oil addiction.

Senator PRYOR. Ms. Claybrook, do you have any views on the anti-backsliding provision? I know you had some reservations about the size-based, as well.

Ms. CLAYBROOK. Well, we think that if you're going to restructure the system, which we see no reason to do for the car fleet, that it's absolutely essential to have an anti-backsliding requirement. And one of the key questions is what's that going to be.

Senator PRYOR. Right.

Ms. CLAYBROOK. So, that's another issue, that adds yet another complexity to it. I think that restructuring with a sliding scale and the addition of an anti-backsliding requirement is complex and unnecessary for cars.

Senator PRYOR. OK, thank you.

Mr. Webber, let me ask you a question. Secretary Mineta, earlier in this hearing, talked about one of the factors they look at as they have set standards in the light-truck world is the impact on manufacturers. But it seems to me that if you look at the Big Three—the so-called Big Three U.S. automakers, they've been losing market share fairly steadily over the last two or three decades. And it seems to me that one of the things that the American consumer looks at when they're purchasing a new vehicle is the gas mileage of the vehicle. And so, I would think that if we did have more stringent fuel efficiency and fuel economy requirements in the U.S., it might actually help the Big Three automakers. Do you have any comments on that?

Mr. WEBBER. I do, Senator. And let me just say that, as I look at this list of alternative fuel autos on sale today, the Big Three is well represented. As I look at the very serious commitment the old Big Three have made to research and development, it is, indeed, very impressive. In fact, the automobile industry, generally, spends more money, almost $15 billion a year, in research and development and this is more than the pharmaceutical industry spends. And so, we're Number 1 in this country when it comes to R&D spending. And most of it is going to advanced technology vehicles.

What are these advanced technology vehicles achieving? Better mileage and lower emissions. All you have to do is look at the dozen models of hybrids, many of which are manufactured by the Big Three, and you can see the results. The same goes with diesels and biodiesels and ethanol, and even natural gas. I think it's advanced technology and alternative fuels. To me, that's the twofold answer to the crisis we're in today, if, indeed, it really is a crisis, as Secretary Bodman insists. As I said earlier, CAFE is a long-term proposition. The gentleman from the Union of Concerned Scientists feels that advanced technology is a long way off. That is not true. It's here.

Senator PRYOR. Mr. Webber, let me ask one final question. This is really, I guess, for Mr. Webber and Mr. Friedman. And that is an issue that's very important to this Committee, certainly very important to me, and that's safety. We don't want to sacrifice safety. But we do know that the NAS, for example, examined safety when they looked at CAFE standards, et cetera, and all the ramifications that they may have for the consumer. As I understand what the NAS said, they said that the fuel economy in new vehicles, especially in SUVs and trucks, could be raised by as much as 8 to 11 miles per gallon. It would be more expensive, apparently, per vehicle, but that cost would be offset over time through economy in fuel prices. In addition, there would be no, or very little, change in the vehicle's size or performance, and there might even be a slight increase in weight. And so, I heard the Secretary earlier talking about that again, that being one of the factors that they look at, of safety. But it seems to me that based on the NAS study and other things that I'm aware of—it seems to me that you can make cars more energy efficient and not lose anything on the safety front. Could I have your comments on that? And then Mr. Friedman, as well?

Mr. Webber?

Mr. WEBBER. I'll defer to Mr. Friedman.

Senator PRYOR. OK.

Mr. WEBBER. First. And I'll—then I'll——

Senator PRYOR. OK, great.

[Laughter.]

Senator PRYOR. You want to close on that, OK.

Mr. FRIEDMAN. Well, you can—you're speaking exactly what the National Academy findings say. And, in fact, reading from the report, it says, "Cost-efficient fuel-economy increases occur without degradation of safety. In fact, they should provide enhanced levels of occupant protection, because both the increased level of safety technology and the increased weight of that technology."

Senator PRYOR. And you agree with that.

Mr. FRIEDMAN. It is clear that the technology is out there to increase fuel economy with either having no impact on safety or making vehicles significantly safer. When you look back to 1988–1989, by that point, on the order of 80 percent of the improvements in fuel economy were due to technologies that had no impact on safety. The only way we're going to have safety problems is if the auto industry does not put safe vehicles out there. This is the auto industry who fought seatbelts, who fought airbags. They don't have a lot of credibility on safety. And that's why the Government has had to require them to put—whether it's safety technology or fuel-economy technology into those vehicles. That's the only way we're going to move forward safely and efficiently.

Senator PRYOR. Mr. Webber?

Mr. WEBBER. Glad I deferred. I am happy to have the last word. Our vehicles, as I said earlier in my testimony, have never been safer. Safety is a competitive issue. We're doing things that are not required of us. Many of these things are standard safety issues, or, I should say, features that are standard on automobiles and trucks today. Some are options. But they have never been safer.

The other point I would make is that safety has to be a consideration when you're addressing CAFE. I think NHTSA, generally speaking, has done a fairly good job in considering safety issues over the years. But I do want to quote from the *Wall Street Journal* editorial. This is today's editorial. I hesitate to use the caption, but it—they did say "Not so Grand CAFE." You can draw your own conclusions on that. But they do address the safety issue. And here is the quote, "The National Academy of Sciences once focused on the impact of CAFE standards in a single year, 1993, and estimated that they resulted in as many as 2,600 additional deaths. Average car and light-truck weight rose a bit in the 1990s, and in 2002 the Academy wrote that this increase, though detrimental to fuel economy, had saved lives in return."

So, there is a tradeoff. There is always a tradeoff. We have to take those tradeoffs into consideration as we address CAFE. And NHTSA is mandated to do that.

Senator LOTT. Yes. And I think they should. Another personal point of reference. My son and my son-in-law, thank goodness, both bought recent new vehicles, and the primary, if not the only consideration, was safety, carrying my four grandchildren. Now, unfortunately—or fortunately—they picked vehicles that were highly safe

in their ratings, but did not get very good fuel efficiency. Not that they're necessarily, you know, not compatible. But clearly, safety is a big issue with the buying public, more so than the fuel efficiency.

I believe, Senator Cantwell, you had one follow-up question?

Senator CANTWELL. Yes. But, on that subject, I just want to point out, I think that some of the analysis in studies—because there are others that show that they're—in fact, Dynamic Research Institute showed that there was no impact on safety with decreasing the weight across a fleet, but there are issues of whether airbags were used appropriately in those studies. So, I think we should get the information on that so that we can compare accurate assessments. I think it's great that many of these vehicles now not just have one or two airbags, but sometimes as many as six airbags in the car.

But I wanted to ask Mr. Reuther about just the—Mr. Friedman was talking about the nature of change, and, obviously, the length of time for that change. And one of the things that's been impressive about what other countries have done with American cars is that they have successfully accelerated this transition to alternative fuels. How quickly do you think that we could get to the point of producing over a major of percent of U.S. cars in the United States with that flex-fuel capability?

Mr. REUTHER. I don't have an exact year for you, but, you know, we think over the next decade it's easily achievable to make our auto fleets flex-fuel capable. At the same time, we think we should be moving forward aggressively in expanding the introduction of advanced technologies—the hybrids, the advanced diesels—and making sure that the vehicles and the components are built in this country. And we would like to see Government become more of a partner in encouraging that acceleration.

Senator CANTWELL. But you think within a 10-year period of time, we could get to over 50 percent? Is that what you were——

Mr. REUTHER. Certainly. Yes.

Senator CANTWELL. Thank you.

Well, Mr. Chairman, thank you for conducting this hearing. And, given your remarks earlier, I certainly believe that we need to look forward, and we need to look forward in the most expeditious fashion. I think this country is just one hurricane or one international incident away from really having our economy greatly impacted by this. And so, as quickly as we can consider legislation and get it moved through the Senate and to the House and on to the President's desk, the better. So, I thank you for conducting this hearing.

Senator LOTT. Thank you, Senator Cantwell and Senator Pryor and to our panel. It was a very interesting panel this morning. Thank you for your time.

This hearing is adjourned.

[Whereupon, at 12:35 p.m., the hearing was adjourned.]

A P P E N D I X

PREPARED STATEMENT OF HON. DANIEL K. INOUYE, U.S. SENATOR FROM HAWAII

It is unfortunate that it has taken record high gas prices to prompt interest in new corporate average fuel economy (CAFE) standards. Nonetheless, I am pleased that we are moving forward on this issue.

This Committee can state with great pride that it helped to establish the nation's first CAFE standards in 1975, following the oil crisis of the early 1970s. The standards were largely credited with decreasing the nation's oil demand in the 1980s, but they have not been updated since. Thirty years later, it is time to do more, and this Committee must take the lead.

We know from experience that CAFE works. A National Academy of Sciences study demonstrated that CAFE standards achieved a 75 percent increase in fuel efficiency over the time period they were implemented, improved efficiency without affecting vehicle performance, and did both affordably. These improvements resulted in billions of gallons of oil saved, and relief at the pump for all Americans.

We also know from experience that our Nation's insatiable demand for oil is one of our greatest economic vulnerabilities, but we have the capacity to do something about it. New CAFE standards are one of the most immediate and effective steps we can take to remedy our dependence on oil. Technology that would double our fuel efficiency is already available; automakers just need to adopt it. That step alone would reduce our national oil dependence and reduce fuel costs for every American.

While I am encouraged by Ford Motor Company's recent, concerted emphasis on flexible fuel vehicles and hybrid technology, I would like to see our automobile industry, as a whole, take a more aggressive leadership role in addressing fuel economy. We do not expect any of these companies to put themselves out of business, but we do expect them to be innovators and leaders in the effort to help create a sustainable and profitable energy future for our country.

I would like to see this Committee update the CAFE standards in a way that better reflects the times in which we live. These standards can have a profound impact on our oil demand, and given that they are squarely in this Committee's jurisdiction, I believe we have a responsibility to advance them. I know that many Members on this Committee are deeply interested in this subject, and I would like to work with each of you as we advance a proposal in the weeks to come.