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MIDTERM REVIEW AND UPDATE ON THE CORPORATE AVERAGE FUEL ECONOMY PROGRAM AND GREENHOUSE GAS EMISSIONS STANDARDS FOR MOTOR VEHICLES

THURSDAY, SEPTEMBER 22, 2016

House of Representatives,

Subcommittee on Commerce, Manufacturing,

and Trade,

joint with the

Subcommittee on Energy and Power,

Committee on Energy and Commerce

Washington, D.C.

The subcommittees met, pursuant to call, at 10:00 a.m., in Room 210 Capitol Visitor Center, Hon. Michael Burgess [chairman of the subcommittee] presiding.

Present from Subcommittee on Commerce, Manufacturing, and

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Trade: Representatives Burgess, Lance, Blackburn, Harper, Guthrie, Bilirakis, Brooks, Mullin, Upton (ex officio), Schakowsky, Kennedy, Welch, and Pallone (ex officio).

Present from Subcommittee on Energy and Power: Representatives Olson, Barton, Latta, McKinley, Griffith, Johnson, Flores, McNerney, Tonko, Engel, Green, and Castor.

Staff present: Gary Andres, Staff Director; Grace Appelbe, Staff Assistant; Will Batson, Legislative Clerk, Energy & Power; Elena Brennan, Staff Assistant; James Decker, Policy Coordinator, Commerce, Manufacturing, & Trade; Graham Dufault, Counsel, Commerce, Manufacturing, & Trade; Blair Ellis, Digital Coordinator/Press Secretary; Melissa Froelich, Counsel, Commerce, Manufacturing, & Trade; Giulia Giannangeli, Legislative Clerk, Commerce, Manufacturing, & Trade, Energy & Environment; Tom Hassenboehler, Chief Counsel, Energy & Power; A.T. Johnston, Senior Policy Advisor; Ben Lieberman, Counsel, Energy & Power; Brandon Mooney, Professional Staff Member, Energy & Power; Paul Nagle, Chief Counsel, Commerce, Manufacturing, & Trade; Annelise Rickert, Legislative Associate; Chris Sarley, Policy Coordinator, Environment & Economy; Dan Schneider, Press Secretary; Olivia Trusty, Professional Staff, Commerce, Manufacturing, & Trade; Michelle Ash, Minority Chief Counsel, Commerce, Manufacturing, and Trade; Jeff Carroll, Minority Staff

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Director; Timia Crisp, Minority AAAS Fellow; Jean Fruci, Minority Energy and Environment Policy Advisor

Mr. Burgess. The Subcommittee on Commerce, Manufacturing, and Trade will now come to order. I will recognize myself 5 minutes for the purposes of an opening statement.

Congress established the Corporate Average Fuel Economy Program in 1975 to improve vehicle fuel economy, to reduce oil consumption and to secure the nation's energy independence. The National Highway Traffic Safety Administration was tasked with overseeing the program and empowered to set fuel economy standards for cars and trucks sold in the United States.

Since the establishment of the Corporate Average Fuel Economy Program, it has undergone significant modifications and revision. Some changes were driven by fluctuating economic conditions and projected marketplace activity. Advancements in automotive technology have also played a part, and still other changes have been driven by political winds.

Layered on top of that the National Highway Traffic Safety Administration and the Environmental Protection Agency and all the states setting up their own programs and you have one very complicated regulatory scheme. As we gather today to discuss CAFÉ greenhouse gas emissions and the midterm review, I want to admit that I have serious concerns about the real-world impact that the National Highway Traffic Safety Administration's standards for model year 2022 to 2025 that are the standards that

they will have on vehicles on our economy. I worry about the health of the auto industry and of course consumer welfare.

I believe in fuel efficiency, I believe in energy independence, but I also believe in policy that is based upon the real world, and I really believe in consumer choice and consumer wisdom. In Texas we have big spaces and we like to get around those big spaces in big cars with big air conditioners, and technology and gas prices have allowed us to do that with a great degree of facility.

I also believe strongly in the power of efficiency. Every summer I hold an energy efficiency summit in the district when historically fuel and electricity prices are at their highest in a state like Texas, where temperatures exceed 100 degrees consistently through the summer.

However, as strongly as I feel about energy efficiency, I feel equally as strongly that the government should not be in the business of telling consumers what they can use and what they cannot purchase. The issue of a product's efficiency whether it be a lightbulb or motor vehicle should be between the manufacturer, the company that manufactures, and the consumer.

For this reason I have introduced H.R. 4504, the Energy Efficiency Free Market Act, to repeal the Department of Energy's authority to mandate efficiency standards for all consumer

products. That is not to say that I don't believe in purchasing the most efficient products available. I drive a hybrid, a strong hybrid in the vernacular of today's witnesses. When I built my house I made certain the products we used were the most energy efficient we could obtain in off-the-shelf items.

But those were my choices. The government wasn't and shouldn't be part of those decisions. What I don't want to see is the government regulations and overly prescriptive mandates taking away consumer choice and putting the big hurt on the family budget.

The auto industry is one of the few bright spots in our economy. It creates millions of jobs. It drives productivity. It drives innovation. It drives economic growth. It also allows for investments into lifesaving technologies that make our roadways safer and more secure for the driving public.

I am deeply concerned that the planned fuel economy standards for future model years will significantly stall that progress and dramatically reduce consumer choice. I am concerned that in some cases it could even push consumers into less safe cars because they either have to buy a used car or because they can't afford the newest technology, and subsequently they do not avail themselves of the newest safety technologies.

At a time of persistent economic uncertainty facing

hardworking American families we have a responsibility to ensure that this does not happen. In that vein, I look forward to discussing the assumptions of both the Highway National Traffic Safety Administration and the Environmental Protection Agency and how they are looking at these assumptions as they require ever-increasing fuel efficiency standards and how they further the National Highway Traffic Safety Administration's core mission in providing safe and secure vehicular travel for the American people.

That concludes my opening statement. I will yield back my time and recognize the ranking member of the Subcommittee of Commerce, Manufacturing, and Trade, Ms. Schakowsky, 5 minutes for an opening statement, please.

[The opening statement of Mr. Burgess follows:]

**********COMMITTEE INSERT 1**********

Ms. Schakowsky. Thank you, Chairman Burgess. I am pleased to join you and my colleagues for this joint hearing of the Commerce, Manufacturing, and Trade and Energy and Power Subcommittees.

Over the past 4 decades, Corporate Average Fuel Economy, or CAFÉ, standards have been an important tool in improving fuel efficiency and reducing greenhouse gas emissions. Think about how much cars have changed in that time. They became lighter and more aerodynamic. Engines have gotten more efficient. And we have seen the emergence of hybrid, which I have, electric and alternative fuel vehicles.

These technological advancements were driven, in part, by CAFÉ standards. CAFÉ standards were borne out of the energy crisis in the 1970s. We now face a different and larger crisis, the threat of global climate change. I am not here to debate science. The argument is settled. We need to think about how CAFÉ factors into our broader efforts to improve fuel economy and decrease carbon emissions that contribute to global climate change.

The work of the National Highway Transportation Safety Administration and Environmental Protection Agency to set fuel efficiency and greenhouse gas emission standards is critical. I have heard the arguments that CAFÉ standards are ambitious,

push the line limit of technology; that is a good thing. We must take meaningful steps to reduce fuel consumption, and strong standards push the auto industry toward greater efficiency and innovation.

Today we examine CAFÉ standards as NHTSA and the EPA work to finalize their Technical Assessment Report, TAR, a step in evaluating standards for model years 2022 through 2025. Discussion of the TAR and the midterm review may seem technical but the purpose is simple, to determine what standards are feasible going forward. I want us to be ambitious but practical as we consider these standards. Those of us serving on these subcommittees have responsibility to reject hollow arguments put forth to justify lower targets.

I want to clarify a few items from the start. NHTSA and EPA do not set a single fuel economy standard. Since 2007, the standards for each automaker have been customized to a vehicle's wheelbase and track width, the vehicle's footprint. That means that standards are already tailored to an automaker's unique fleet.

Since 2008, vehicles have gotten bigger, meaning lower standards apply. We need to think carefully before providing further needless flexibility that allows for even lower fuel efficiency than an automaker would otherwise need to achieve

On that note, I approach discussion of credits for meeting CAFÉ standards with what I think is a healthy level of skepticism. Should an eco-friendly sedan excuse a gas-guzzling SUV? That seems hard to justify when other automakers have manufactured an efficient SUV but a less efficient car. We should expect progress across all classes of vehicles. I find the proposal of credits for safety improvements especially disingenuous, and I see that suggestion again in some of the written testimony today.

As ranking member of the Commerce, Manufacturing, and Trade Subcommittee, I am a strong advocate for auto safety. This is one of the key consumer protection issues we work on. Safety and fuel efficiency should not be presented as an either/or scenario. The automakers should not get a pass on fuel economy for making safety improvements that they have already committed to making.

The argument for safety credits rests on a shaky premise that safety technologies lead to lower energy consumption by reducing congestion. The data shows otherwise. According to the Department of Transportation, more than 75 percent of congestion is caused by bottlenecks, construction zone, bad weather, poor traffic signal timing, and special events, not crashes.

Contrary to some of the arguments we will hear today, safety

technology will not help with this congestion, and will not increase congestion and will not improve fuel economy. Improving fuel economy is vital. I look forward to hearing from our witnesses on what standards are feasible to achieve this and how we can continue using CAFÉ standards to drive the automotive industry forward. And I yield back.

[The opening statement of Ms. Schakowsky follows:]

**********COMMITTEE INSERT 2**********

Mr. Burgess. The gentlelady yields back. The chair thanks the gentlelady. The chair now would like to recognize the chairman of the Subcommittee on Energy and Power, Mr. Olson, 5 minutes for an opening statement, please.

Mr. Olson. I thank my friend from Texas for taking the lead in making this important joint hearing happen. This midterm review of federal CAFÉ standards and GHG emissions is exactly what the American people expect from their Congress. It is timely, because when this process began our world and our economy were very different.

Gasoline prices were only going up from record highs and interest rates were closer to ten percent instead of one percent today. Now America is deemed number one producer of oil and gas in the entire world which has lowered gasoline prices significantly. The Federal Reserve does not budge in increasing interest rates. As a result, certain assumptions have changed.

This is mostly good news for consumers, but it changes their spending habits, their patterns. With this stagnant economy consumers are looking for the best value when buying new cars and looking long term, 5 to 10 years of ownership on average. The new technology automakers are developing to meet the CAFÉ and GHG standards cost more. Today we will look at how consumer choices impact the ability to meet these goals.

The One National Program so far has been a good example of cooperation between the public and private sectors. In these situations, the public sector must speak with only one clear voice. When two agencies have conflicts no one wins. I worked hard to protect our nation's electric grid by fixing a small glitch in federal law that forced electricity producers to choose which federal law they would violate due to competing and conflicting federal agencies.

The One National Program was designed to avoid this situation for automakers. This midterm evaluation is the best occasion to ensure that three different sets of rules do not conflict with one another. In reviewing the requirements of each program, there is a clear gap that can leave manufacturers in compliance with one set of rules and out of compliance with another set of rules. And that is just based on NHTSA and EPA's regs. It does not include the zero-emission vehicle program being developed by California.

I also want to hear from the EPA about the benefits of the rulemakings. This is a very complex and expensive set of rules and we need to start with a very strong foundation. This midterm evaluation is a starting point where we can work together to avoid conflicts before they become a big problem.

And it is not just automakers that suffer if we don't get

this right. The American people will greatly be impacted by a patchwork system that increases costs while weakening the most important force for growth in a free-market economy, consumer choice. I hope that working together we can find a common ground to harmonize these standards and develop the real vision of the One National Program.

Thank you, Mr. Chairman. I yield back.

[The opening statement of Mr. Olson follows:]

**********COMMITTEE INSERT 3**********

Mr. Burgess. The chair asks if you would be willing to yield Mrs. Blackburn the remainder of your time.

Mr. Olson. Absolutely. You have my time, the gentlelady from Tennessee, Mrs. Blackburn.

Mrs. Blackburn. Thank you, Mr. Chairman. I want to welcome all of our witnesses because it is so appropriate that we do take the time to go over the CAFÉ standards and to remember why these came about, and we have talked a little bit about that this morning. The 70s were a very different time, and there was a lot of emphasis on our vulnerabilities. You had the gas shortages of the '70s that brought that about. People paid attention to that. This past weekend we had gas shortages in Tennessee and people recalled those gas lines of the '70s.

But CAFÉ came out of that and it was set up to reduce our dependence on foreign oil, a worthy goal. But what we have to do is realize that we have these differences between EPA and NHTSA and we do need to move to harmonization for these standards in order for them to be effective.

I have got a big presence of auto industry in my district. We have Nissan. We have GM. We have the Toyota Bodine plant. And everyone talks about the dilemma that this presents and the need to make certain that you are in compliance with each of these. One stop makes it easier, because on top of that then you have

things like the California CARB program that you are also dealing with. Safety, security is important to us in these vehicles as well as looking at the environmental issues. We welcome you, look forward to the discussion. Yield back.

Mr. Burgess. The gentlelady yields back. The gentleman's time has expired. The chair now recognizes the gentleman from California, Mr. McNerney, 5 minutes for an opening statement, please.

Mr. McNerney. Well, I thank the chairman. I thank the witnesses for coming out here this morning. I am looking forward to your testimony. It is great to have this joint hearing today to receive an update from the agencies and industry stakeholders regarding the CAFE standards. It is an important subject and one in which I have a great deal of interest, both because it relates to our overall consumption of fossil fuels and our dependence on imported oil and because it has a significant impact on climate change.

To date, the automotive industry and government have worked together to reduce emissions and create safer and more efficient vehicles. This is a win-win for consumers and the environment, and I own a Camry hybrid so I personally know the benefits of these vehicles.

CAFÉ standards have proven moderately effective, but there

are factors beyond CAFÉ that are impacting the marketplace, the brokered agreement on greenhouse gas emissions, the lowering cost of gasoline, consumer preferences, and improving fuel efficiency of automobiles, and state emissions initiatives such as the Zero Emission Vehicle program in California that requires automakers to sell electric cars and trucks in California.

California's EV penetration is about three percent compared to the national average of one percent. And Californians have 22 different types of EVs to choose from. The market is there and California has shown that it can work. California has been a leader in programs that reduce emissions for both stationary and mobile sources.

Mobile sources account for more than half of the emissions that contribute to ozone and particulate matter and nearly 40 percent of the greenhouse gas emissions in our state. As a result of the improving technology and consumer choice, Californians continue to purchase zero-emission vehicles.

Some regions of our state, including my own, will greatly benefit from the reduced emissions of low carbon vehicles, and EVs will have a significant impact on the nation's electric grid. California's electric grid utilities recognize the importance of EVs to the twenty-first century grid infrastructure and are making the appropriate investments. This will help lead and

transform the rest of the nation.

Now regions do differ in energy use patterns. However, reducing emissions is a national goal and increasing zero or low emission vehicles is good for our nation. California is the leader in hybrid zero-emission vehicles and its EV program technology innovation is paramount. It leads to efficiency and it can lower costs for consumers and manufacturers and it is good for investment. We have in California by 2010 over $800 million was invested in EV research and development. That was nearly three-quarters of the global investment at that time, so our policies are having an impact.

We cannot discuss zero-emission vehicles without talking about their impact on the electric grid. EVs will play a tremendous role in the future of our grid from utility through end user. EVs play a role in storage and allow users to feed back to the grid or use stored power outside. These are things that the elements of a transforming grid and our nation's future of distribution of energy.

Thank you, Mr. Chairman. I yield back.

[The opening statement of Mr. McNerney follows:]

**********COMMITTEE INSERT 4**********

Mr. Burgess. The chair thanks the gentleman. The gentleman yields back. The chair recognizes the chairman of the full committee, Mr. Upton, 5 minutes for opening statement, please.

The. Chairman. Well, thank you, Mr. Chairman. You know, you don't have to come from Michigan to be concerned about the Administration's motor vehicle fuel economy and greenhouse gas emission standards, because these provisions if they are done wrong would hurt car owners as well as car makers, big time.

The good news is that the 2012 standards wisely included a do-over provision in the form of a midterm evaluation that does allow the EPA and NHTSA to adjust the future stringency of the standards in light of changed circumstances. And as I recall that was a revision that Carl Levin and John Dingell and myself worked very hard to include as part of those provisions so that we would have this opportunity, bipartisan.

And circumstances certainly have changed. In particular, EPA and NHTSA assumed that gas prices would be headed towards 4 and maybe even $5 a gallon by now, but instead they are actually somewhat stable at $2 a gallon at the moment. And at these prices, the added cost of hybrids or other highly efficient vehicles may never be earned back in the form of energy savings, and the sticker shock is far from trivial. EPA estimates a cumulative impact

on vehicle prices of nearly $3,000 per vehicle by 2025, and some analysts believe that the actual cost is considerably higher.

No question that improved vehicle fuel efficiency is a worthy goal, no question about it, but not if it reached in a way that harms consumers particularly the most vulnerable. And with the average cost of a new car at $34,000 and rising, we don't need any unnecessarily costly D.C. mandates, and we have got to be particularly sensitive to low-income households who may be getting priced out of the new car market altogether.

So for Michigan I also worry about the impact that these standards could have on the long-term health of the auto sector. The industry is doing pretty well right now, thanks in large part to pent-up demand after the last recession and very low interest rates that make financing about as cheap as it has ever been. But these two temporary factors are not always going to last, and the industry will be stuck with these costly standards that perhaps will increase every single year.

That is why I hope that EPA and NHTSA use this opportunity to adjust the targets for model years 2022 to 2025 to more reasonable and achievable levels. There are also more immediate problems that have to be addressed. This administration promised the auto industry one set of uniform national standards rather than a patchwork of inconsistent requirements. Several years

into the program it is clear that the two federal agencies involved, EPA and NHTSA, are not always on the same page.

So we need to make some changes including legislation if necessary to ensure that there is one set of rules for automakers to follow. Motor vehicles are getting more efficient and they are going to continue to do so, and that is a good thing. But we need to make certain that it happens in a way that maximize benefits for consumers and preserves the health of the automotive industry.

But I know that today's hearing is going to help set us on that course, and I yield back. Thank you, Mr. Chairman.

[The opening statement of The Chairman follows:]

**********COMMITTEE INSERT 5**********

Mr. Burgess. The chair thanks the gentleman. The gentleman yields back. The chair recognizes the ranking member of the full committee, Mr. Pallone of New Jersey, 5 minutes for opening statement, please.

Mr. Pallone. Thank you, Mr. Chairman. I am not saying this about Mr. Upton or the Michigan members, but I think that unlike the symbol of the Republican Party, the elephant, which has a long memory, many of my GOP colleagues have very short memories. Because I remember when the President was out there, you know, really trying to play up the need for a bailout for the auto industry and there were many Republicans including those in the leadership who didn't want to do it.

So it is very nice for everybody to say that, you know, they want to help the auto industry, but that certainly wasn't the case.

The. Chairman. If the gentleman will yield momentarily.

Mr. Pallone. It is not true for you, Mr. Chairman. I am not suggesting that for you.

The. Chairman. We like to use the word rescue plan versus bailout because it was paid back. It was paid back. Mr. Pallone. Oh, rescue plan, okay. And anyway, I like elephants, but many of you don't live up to the elephant. But in any case, not true for you.

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Thank you for holding this hearing on the midterm review of the federal greenhouse gas and fuel economy standards for light-duty vehicles. It has been some time since our committee held a hearing to examine the Corporate Average Fuel Economy, or CAFÉ, program. We have an excellent panel of witnesses here today. I particularly want to thank Assistant Administrator McCabe and Chief Counsel Hemmersbaugh for appearing before us today.

There is no scientific doubt that the climate is indeed changing and we need to be more aggressive about controlling greenhouse gas emissions. Today the transportation sector is second only to the electricity sector in the production of greenhouse gas emissions. The vehicles regulated under the CAFÉ program account for 60 percent of the total emissions from the transportation sector, and these harmful emissions effect more than our climate. They also directly impact air quality and public health.

The coordinated standards for greenhouse gas emissions set by the EPA and fuel economy set by NHTSA are a vital part of the effort to control harmful emissions. These standards will deliver multiple benefits including significant savings in fuel costs to consumers, improved air quality, and greater energy security. Compliance with these federal standards will also

ensure that automakers are in compliance with the greenhouse gas emission standards issued by California.

Gasoline prices have come down -- that is great. Lower fuel prices keeps more money in people's pockets. But we also know from past experience that prices can rise quickly, and when they do improved fuel economy provides an effective buffer from price spikes.

In 2007, there were two major events that changed the regulatory landscape for vehicles. First, the Supreme Court ruled in Massachusetts v. EPA that the Clean Air Act required EPA to regulate greenhouse gas emissions. Second, Congress amended the Energy Policy and Conservation Act to provide automakers a more flexible regulatory program.

The targets set by EPA and NHTSA are aggressive. The purpose of the midterm review is to answer two key questions. Can automakers meet the standards and can they meet them at a reasonable cost? And the extensive analysis presented in the Technical Assessment Report done by EPA, NHTSA, and California Air Resources Board indicates the answer to both of these questions is yes.

Innovation is and always has been the driver for these advancements. We recognized that air pollution from auto emissions was a serious problem in Southern California as early

as 1959, and at that time there were no pollution control devices for cars. Auto manufacturers said pollutants could not be controlled; that the technology didn't exist; and they claimed that even if it were possible it would be far too expensive to deploy the technology.

Well, California passed laws requiring pollution control anyway. We all know the rest of the story. It was not impossible. It was not too expensive. We enacted the Clean Air Act and fuel efficiency standards, and of course people still bought cars. Not only did they buy cars, but today we have cleaner, more efficient cars than ever, and we also have much cleaner air thanks to regulation pushing technology forward.

So the last phase of the coordinated regulations maintain the necessary pressure for further improvement, and I have no doubt that our auto industry can and will rise to the occasion. I would like to yield the remainder of my time to Mr. Tonko.

[The opening statement of Mr. Pallone follows:]

**********COMMITTEE INSERT 6**********

Mr. Tonko. I thank the gentleman for yielding. Let's be clear. These standards protect consumers and reduce greenhouse gas emissions. This year, transportation surpassed the electricity sector as the largest source of greenhouse gas emissions in our country.

Throughout her history America has engaged a pioneer spirit. That pioneer spirit was about meeting challenges. CAFÉ standards meet challenges and are an important aspect to reaching our emissions goals, and by so doing we are also saving consumers a lot of money at the pump. Consumers support more fuel efficient cars regardless of their feelings on climate change. I think that is important to note.

And I would certainly offer caution to those who would seek to roll back standards because of today's gas prices. Even though gas prices may have been reduced, they won't stay that way forever and it is important for us to go forward with our stewardship of the environment to pass on to the next generation and even improved environment. With that I yield back.

[The opening statement of Mr. Tonko follows:]

**********COMMITTEE INSERT 7**********

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Mr. Burgess. The gentleman yields back. The gentleman's time has expired. That concludes member opening statements. I do want to remind members that pursuant to committee rules, all members' opening statements will be made part of the record.

We do want to thank our witnesses for being here today, for taking the time to testify before the subcommittee. Today's hearing will consistent of two panels. Each panel of witnesses will have the opportunity to give an opening statement followed by a round of questions from members. Once we conclude with the questions of the first panel, we will take a very brief, underscore brief, recess to set up for the second panel.

Our first panel of witnesses for today's hearing includes Dr. Paul Hemmersbaugh, the chief counsel, National Highway Traffic Safety Administration, and Ms. Janet McCabe, acting assistant administrator for the Office of Air and Radiation, Environmental Protection Agency. We appreciate both of you being here today. We will begin the panel, I guess, with you, Ms. McCabe. You are recognized for 5 minutes for an opening statement, please.

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STATEMENTS OF JANET McCABE, ACTING ASSISTANT ADMINISTRATOR, OFFICE OF AIR AND RADIATION, ENVIRONMENTAL PROTECTION AGENCY; AND, PAUL HEMMERSBAUGH, CHIEF COUNSEL, NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

STATEMENT OF JANET McCABE

Ms. McCabe. Thank you very much, Chairman Burgess, Chairman Upton, Vice Chairman Olson, Ranking Members Schakowsky and Pallone, and other members of the subcommittees. I very much appreciate the opportunity to testify on the Environmental Protection Agency's greenhouse gas standards for light-duty vehicles and what we call the midterm evaluation process.

A little over 3 years ago, President Obama announced his climate action plan. That plan called on the federal government to do everything possible to combat the urgent threat of climate change using our current laws and authority, and EPA has responded to that call. EPA has adopted several rules under our Clean Air Act authority to reduce greenhouse gas emissions including the focus of today's hearing, our rules that will significantly reduce GHG emissions from light-duty cars and trucks.

The National Program for light-duty cars and trucks is the product of successful collaboration among EPA, NHTSA and California. The program was established with broad support and

extensive input from the auto industry, and it is already driving substantial greenhouse gas reductions, oil savings, and savings for consumers.

In the 2012 rule that established GHG and fuel economy standards for model years 2017 through 2025, the agency committed to conduct what we call the midterm evaluation through which EPA will determine whether the greenhouse gas standards for model years 2022 through 2025 are still appropriate.

The first step in the midterm evaluation process was the preparation of a draft Technical Assessment Report, or TAR, which EPA, NHTSA, and California wrote jointly and released in July. The draft TAR is a comprehensive and robust technical analysis that delivers on our commitment to examine a wide range of factors relevant to the '22 through '25 standards.

Those factors include things like developments in different CO2-reducing technologies and their penetration into the marketplace, whether there is consumer acceptance of new efficient technologies, trends in the vehicle fleet and many others. Significant analysis from EPA, NHTSA and California went into developing the draft TAR from state-of-the-art benchmarking testing of actual vehicles at EPA's lab to full vehicle computer simulations that look at how new technologies work together to reduce emissions.

Throughout this process we have made it a priority to share information with stakeholders in real time, including the publication of numerous peer-reviewed technical reports. The draft TAR was also heavily informed by what we learned from extensive outreach to a wide range of stakeholders including automakers and technology suppliers.

I would like to note a handful of the key initial findings from the TAR. First, the draft report shows that automakers are adopting CO2-reducing technologies very rapidly. The innovation we have seen means there are over 100 car, SUV, and pickup versions on the market today from many manufacturers that already meet 2020 or later standards.

For consumers, this means that vehicles are getting cleaner and using less gas. Every single vehicle category from subcompacts to pickup trucks offers more fuel efficient, lower-emitting choices for consumers now than in years past. Furthermore, the initial finding in the draft TAR is that car makers can meet the standards at similar or lower costs than we had anticipated in our 2012 analysis.

Second, the agency's vehicle standards are working. The draft TAR briefly summarizes information showing how the industry has overcomplied with the GHG standards for each of the first 3 years of the program, and in 2014 they outperformed the standards

by about 1.4 miles per gallon.

Third, our draft analysis is consistent with a key finding from the 2012 rule, namely that the 2022 through 2025 standards can be met largely with more efficient gasoline powered cars. Automakers have a wide range of technology pathways from which to choose, but it appears that advanced gasoline technologies will continue to be the predominant technologies with modest levels of what we call strong hybrids and very low levels of full electrification needed to meet the standards.

We believe that the analysis presented in the draft TAR underscores that the auto industry is well positioned to meet their customers' expectations while reaching significant new levels of environmental performance. As the comment period closes next week, we look forward to reviewing the public's input.

EPA's next step will be to develop and make available a proposed determination which will provide another opportunity for public review and comment. After consideration of any additional information and input and as required by EPA's regulations, EPA will issue a final determination as to whether the model years 2022 through '25 standards are still appropriate no later than April 2018.

Again, I thank you for the opportunity to serve as a witness at this hearing and look forward to your questions and the

discussion. Thank you, Mr. Chairman.

[The prepared statement of Janet McCabe follows:]

**********INSERT 8**********

Mr. Burgess. The chair thanks the gentlelady. Mr. Hemmersbaugh, you are recognized for 5 minutes for an opening statement, please.

STATEMENT OF PAUL HEMMERSBAUGH

Mr. Hemmersbaugh. Thank you, Mr. Chairman. Mr. Chairman and members of the committee, my name is Paul Hemmersbaugh. I am the chief counsel of the National Highway Traffic Safety Administration which Congress has charged with setting Corporate Average Fuel Economy, or CAFÉ standards. Thank you for the opportunity to testify.

Today I would like to update you on the status of NHTSA's work on the midterm evaluation and answer any questions you may have. At the outset, I would like to emphasize a few points about two primary topics of this hearing -- the midterm evaluation and the draft Technical Assessment Report, or TAR.

First, the TAR is the initial step in the midterm evaluation process for CAFÉ and greenhouse gas standards for 2022 to 2025. The TAR will be used to inform future decisions about the standards for those years. The TAR is not a decision document. It does not change the standards that are currently in place.

Second, the Administration's vehicle standards are working and consumers are accepting more efficient vehicles. While the TAR focuses on model years 2022 to '25, the stringency of the standards has been increasing steadily since model year 2012 and manufacturers have been meeting those standards. At the same

time, the automotive industry has seen 6 consecutive years of sales increases with a new all-time sales record in 2015. This means that consumers are buying and benefiting from more efficient vehicles with lower greenhouse gas emissions while saving money on fuel costs.

Third, our analysis indicates that the standards can be met largely with more efficient gasoline powered cars and with modest levels of what we call strong hybrids, like a Prius, and very low levels of full electrification. While it is up to automakers what technologies they choose to use, advanced gasoline technologies can continue to predominate if that is what the market demands.

As background, the Energy Independence and Security Act of 2007, or EISA, directed NHTSA to set attribute-based fuel economy standards for both cars and trucks rather than the previous flat standards that prescribed a single miles per gallon value. This approach allows the CAFÉ program to be more responsive to changes in consumer demand.

If a manufacturer builds larger vehicles because gasoline prices are low and U.S. consumers then thereby demand bigger cars and trucks, then that manufacturer's compliance obligation will be lower reflecting the footprints of the vehicles it builds.

Fuel economy overall should continue to improve year after year

because the footprint standards continue to increase in stringency every year.

NHTSA and EPA issued a final rule in 2012, representing the second phase of what the agencies refer to as the coordinated National Program. The National Program refers to the way that NHTSA, EPA and the California Air Resources Board work together to create and coordinate standards and to accomplish the goals of energy conservation and emissions reduction.

The midterm evaluation is an integral step to informing NHTSA's CAFÉ rulemaking process, and the TAR is the first step in that process, the TAR's comprehensive and robust report informed by extensive stakeholder outreach and substantial technical work by the agencies over the past several years.

Public comment and input on the TAR will be used to inform and develop NHTSA's proposal for its de novo rulemaking for model years 2022 to '25 standards. NHTSA's subsequent rulemaking will consider all relevant information and conduct a fresh balancing of statutory factors in order to determine the maximum feasible CAFÉ standards for model years 2022 to '25.

I would like to highlight a few additional key results of the TAR analysis. The TAR shows that automakers are adopting fuel economy technologies at unprecedented rates. These technologies are helping manufacturers meet, and in many cases

exceed, applicable standards. In fact, many of today's vehicle models are already meeting future fuel targets.

The TAR also includes a comprehensive update of the compliance costs of the program including a review of the numerous possible technologies that automakers may use to meet the standards. EPA and NHTSA modeling were done largely independently using different technology inputs and different modeling tools. This is a strength of the TAR. The independent and parallel analyses provide complementary and analytically robust results.

NHTSA's assessment shows that the costs of meeting the augural standards for model years 2022 to '25 are comparable to what we found they would be in 2012 at approximately $1,200 per vehicle. At the same time, the average model year 2025 vehicle will save over 1,900 in fuel costs over its lifetime. In sum, the TAR delivers on the agencies' commitment to examine a wide range of factors that affect model years 2022 to '25 standards.

The next step is reviewing the comments we receive on the TAR. NHTSA will continue to work with Congress and stakeholders as it seeks to meet its statutory requirements while implementing the National Program. Thank you again for the opportunity to testify today. I look forward to your questions.

[The prepared statement of Paul Hemmersbaugh follows:]

This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.

**********INSERT 9**********

Mr. Burgess. The chair thanks the gentleman. I thank you both for your testimony and we will move on to the question and answer portion of the hearing. I will recognize myself 5 minutes to begin that questioning.

Mr. Hemmersbaugh, one of the things I like so much when Administrator Rosekind comes before our subcommittee, he always brings the graph of how automobile fatalities have declined under the, really, the past 4 or 5 decades. But it does seem that there has been a little bit of a plateau or a break in that steady reduction, and it does raise the question what are the factors that are responsible for that.

Can you just speak briefly to the balance between the investment that automobile manufacturers are going to have to make in meeting the new Corporate Average Fuel Economy standards and the investment in additional safety features in the automobiles that we buy?

Mr. Hemmersbaugh. In the first instance I would like to emphasize that we are open to comments on our program on the augural standards that the -- this is the first part, and so we are really gratified to have an opportunity to go through a transparent process whereby all different issues including safety issues are raised with respect to the CAFÉ standards.

The CAFÉ standards currently take into account, in fact one

of the 13 chapters of the TAR is dedicated to safety considerations. And we very much are concerned as a safety agency, safety is our middle name. We are very interested in preserving safety and not sacrificing safety in order to make fuel economy gains.

So our models have built into them limitations on weight, what they call mass reduction, and we always consider safety, and we believe that manufacturers as well as responsible public, private agencies will take that into account as well. And so we don't think that there is a conflict between safety and fuel economy.

Mr. Burgess. You know, last week we had a hearing on advanced robotics and it was a very interesting hearing. One of Chairman Upton's constituents, Dean Kamen, at the end of the hearing we talked a little bit about autonomous vehicles, and of course we are asking automobile manufacturers to work with your agency and work with the Congress on developing that technology.

And Mr. Kamen had just a very interesting observation at the end of his testimony. He said there will be a time when we look back on this time and wonder why we didn't already have autonomous vehicles. And he referenced the fact that so many of us are too sleepy or whatever, impaired behind the wheel or

texting or distracted, and really we ought to leave the driving to the robots and not to the driver.

So it was an interesting philosophical approach. And that is one of the great things about this subcommittee is we do -- someone told me the other day, sometimes they look at this subcommittee as kind of being the think tank for the Energy and Commerce Committee in the future of commerce, manufacturing, and trade.

But I really am concerned and I just want to stress that we do need to balance the investments that need to be made in future automotive safety.

Golly, we lost two mothers and two daughters in a head-on collision back in my district a few months ago. A mom and her daughter were driving in one car; a mom and her daughter driving in the other car. Apparently a distracted driving situation where someone left their lane and went into the oncoming lane of traffic. And had a community that was devastated; two schools that were devastated. If there is technology that is just over the horizon that can prevent this type of accident from occurring, I mean, I am all for it. I want to see that day coming.

I remember buying my first cars for my children, which now is many years ago, and philosophically I wanted to get the cheapest jalopy I could get for them because I was cheap, tight. And

someone pointed out, you really don't want to put a teenager in a car without anti-lock brakes. And I think that same philosophy now fast-forwarded to whatever 3 decades, 4 decades, and putting a teenager in a car without a lane departure warning or autonomous automatic braking will seem like something no thinking parent would do.

So I mean, I recognize that the future is very involved as far as auto safety. We are going to hear from our manufacturers later. I mean, I want them to be developing the technologies that are going to keep the driving public safe. Of course, that is your agency's charge. So I just hope we are careful about balancing these two things as we go forward. I will listen to your observations on that if there are anything further you would like to add.

Mr. Hemmersbaugh. Well, thank you. And we are indeed have safety uppermost in our mind in nearly everything we do at the agency. As you may have seen, we just earlier this week introduced an automated vehicle policy and we are very bullish on the safety prospects of that technology and we are doing what we can to encourage the development and to encourage the safe and responsible deployment of automated vehicles technology.

And that is something that we are, as I said, really excited about the prospects for safety as well as increased mobility for

people with disabilities. We just think there is a whole panoply of potential benefits. And if we can get this right and that is a big if, but if we can facilitate the safe deployment of these automated vehicles, I think we will have tremendous safety benefits and perhaps largely eliminate auto crashes as a source of loss of life in the United States.

Mr. Burgess. The chair thanks the gentleman, and the chair recognizes Ms. Schakowsky of Illinois, 5 minutes for your questions, please.

Ms. Schakowsky. First, I just wanted to comment that fortunately I think we have made great advances in auto safety as well as fuel efficiency, and that the two do not cancel out each other in any way and all the evidence is in to say that.

I wanted to ask Ms. McCabe a question. In 2009, EPA issued the finding that elevated concentrations of greenhouse gases in the atmosphere endangered human health and welfare. And since then, the climate has continued to change with new records being set for a number of climate indicators such as average temperature, vanishing arctic sea ice, carbon dioxide concentrations, and sea levels.

So Ms. McCabe, the draft TAR, Technical Assessment Report, examined recent scientific literature related to climate change and the impact of increasing greenhouse gas emissions. What are

some of the climate impacts discussed in the report?

Ms. McCabe. Yes, thank you, Congresswoman, for that question. We do discuss that at great length in the TAR. There are also a number of other documents that the federal government has put out recently addressing these sorts of issues that maybe are a little bit more accessible to people in terms of the things that scientists are observing.

One of the most accessible, I think, is temperature. So 2015 was the warmest year on record. The last decade has been the warmest decade on record. 2016 is gearing up to set another record as well. So in terms of temperatures, in terms of increased droughts, storm severity, loss of ice in the arctic, rising sea levels, increased coastal flooding, those are a number of the kinds of impacts that scientists are seeing in the climate.

Ms. Schakowsky. Thank you. Understanding the impact our emissions have on the atmosphere is particularly important for today's hearing since the transportation sector accounts for roughly a third of total greenhouse gas emissions in the U.S. with light-duty vehicles making up more than 60 percent of the emissions in that sector.

So how have the light-duty standards helped curb greenhouse gas emissions in the United States and what level of emissions reductions can we expect to see when these standards are fully

implemented?

Ms. McCabe. This is a critical element of any program to mitigate greenhouse gases. As you acknowledge, this is a significant portion of the inventory. We predicted in 2012 that over the lifetime of this program that there would be about a six billion ton reduction in emissions from these vehicles. And the TAR that we have just completed, while it focuses in on the 2022 through 2025 period we are in the same area of reductions over the lifetime of the program and in that last 3 to 4 years of the program it is about 540 million tons.

These are substantial. I think we say a lot that it is going to take many, many things in order to address greenhouse gases because they come from a lot of sources, but when you can find a category that contributes this much and you can find cost effective ways of reducing those emissions it is really important to do that.

Ms. Schakowsky. I really appreciate that focus. And finally, Ms. McCabe, what role do the light-duty standards play in meeting our nation's climate goals, if you could reiterate that?

Ms. McCabe. Yes. Well, we have been charged under the Clean Air Act to address air pollution that endangers the public health and welfare. It is clear that CO2 is one of those air

pollutants. And so a major source of activity of ours under the Clean Air Act for 40 years has been reducing air pollution from the auto sector. And so these particular rules are a major element of our target, of our plan to reduce greenhouse gases as much as can reasonably and cost effectively and safely be done.

Ms. Schakowsky. Thank you. I said that was the last but I have one more. We have heard the argument that in order to meet the next round of standards, automakers will have to add a large number of plug-in electric, plug-in electric hybrid and other zero-emission vehicles to their fleet.

I support efforts to increase the number of electric and alternative fuel vehicles, but that is not really the issue here. This is about the National Program which aligns greenhouse gas standards with CAFÉ standards. And since these standards are based on each vehicle's footprint and not a universal average, this talk of requiring electric cars appears to miss the point.

And I am wondering, Ms. McCabe, can you explain how each automaker is given a unique fleet average based on the individual footprint of the vehicles they sell, and would it therefore be possible for a manufacturer to produce exclusively light trucks, SUV, and crossover vehicles and still be in compliance with the upcoming light-duty standards?

Ms. McCabe. Yes, absolutely. The standards, I wasn't

around when these standards were initially designed so I can compliment them without complimenting myself. I just think they are very ingeniously designed in order to provide as much flexibility for the automakers and as much choice for the consumers as possible. So as you say, we don't set one expectation across the entire fleet. Every automaker, depending on the vehicles they produce, will have its own calculated target for what it should achieve.

And going to your question about electric vehicles, what we found in the draft TAR is that due to the innovation and pioneering spirit as was said before, the automakers are just moving along like gangbusters in developing technologies that apply to gasoline engines.

So what we found is that in order to achieve those standards, while electric cars and other zero-emitting vehicles are certainly welcome in the program they are not largely necessary to get each automaker to where they need to be. And as I say, each one will have a target tailored specifically for them based on the cars that they produce, which is based on what they believe they will be able to sell to the American public.

Ms. Schakowsky. Right. Thank you so much. I yield back.

Mr. Burgess. The chair thanks the gentlelady. The gentlelady yields back. I now recognize the chairman of the

Energy and Power Subcommittee, Mr. Olson from Texas, 5 minutes for questions, please.

Mr. Olson. I thank the chair. Welcome, Dr. Hemmersbaugh and Ms. McCabe. Ms. McCabe, it is great to have you here, because I know you are here for what I imagine is very difficult personal times. You spent some time in Boston as has your boss, Administrator McCarthy. You are probably fond of the New England Patriots. Now as you all know, my Houston Texans are going up there tonight, 7:25 kickoff, to crush the Patriots. But enough on -- let's get serious.

Mr. Tonko. May I have a point of order on that one?

Mr. Olson. If I had more time. But being serious, the regulatory impact assessment of 2012, final rule, EPA ballparked that these vehicles standards reduced temperatures by 0.0074 to 0.0176 degrees Celsius by the year 2100, 84 years from now. You also said this reduces sea level rise by as little as 0.71 centimeters. We are looking at amounts too small to even verify.

Given that the overall program has a very modest effect on global warming, wouldn't you agree that adjustments to the program like revising targets in the out years or harmonizing the training program would also have a modest impact on the environment? Would you agree with that?

Ms. McCabe. Well, Congressman, first, while I cheer for

any team that my boss is in favor of, I have to confess that I live in Indianapolis. So I am not sure when your team is going to play the Colts, but we can --

Mr. Olson. Your quarterback came from Houston, Texas, by the way.

Ms. McCabe. Okay. Well, you have just exceeded my knowledge on football.

To answer your question, sir, and we have had this conversation before. I think the fact is that climate change is a global problem and there are sources that are contributing from a wide variety of types of activities. And no one single activity is going to be what we need in order to address the threat of climate change. It is going to take the cumulative accomplishments of a number of different strategies from not only the U.S. but from countries around the world in order to make the difference that we need to see in the climate. And this is an important part of that strategy.

Mr. Olson. So you agree that this is a modest environmental impact. So given that fact and the fact that these rules will cost over $200 billion, and that 2017 through 2025 standards alone come in at $157 billion making it the most expensive automobile regulations in history, are these modest gains worth the cost?

Ms. McCabe. Well, Congressman, I wouldn't actually refer

to this as a modest impact. I would refer to this as a significant impact given the significance of this sector. And I think that I would -- we are welcoming all comments on the cost and the benefits of this program as people give us comments on the draft TAR and all that information is laid out. But what this TAR has found is that the costs are that we predict now for the out years of the program are in line with the costs that we predicted back in 2012 and there has been exhaustive research and updating of our information in order to reach that technical conclusion. But we welcome everybody's views on those points.

Mr. Olson. Well, it is clear we disagree on the fact that the facts are the reduction of the temperatures, 0.0074 to 0.016 degrees Celsius is not something significant in my humble opinion.

But moving on, this is for Dr. Hemmersbaugh. In EPA's testimony they commented that these standards are achievable without, quote, significant use, unquote, of electric cars. That of course means consumers in a low gasoline price world want smaller and lighter vehicles. The automakers in Panel 2 have some serious concerns about whether these assumptions are accurate. Can you talk about consumer acceptance and demand for super-efficient or electric cars and what trends you are seeing in that market in the real world?

Mr. Hemmersbaugh. Initially, I would like to lay a little

groundwork as to the way these standards work. And these standards as you know are footprint-based standards. So each different footprint of a vehicle has a different target fuel consumption, and it is the average over all the vehicles, all the fleet from the smallest to the largest truck that result in the Corporate Average Fuel Economy target or standard that each manufacturer has to meet.

Manufacturers have great flexibility in determining what sorts of cars they choose to produce in order to meet those standards. Similarly, consumers have, consumer choice is preserved by these footprint standards that we didn't have before 2007. But when Congress amended the statute, you wisely provided a process and a standard and a framework that accommodates consumer choice.

While I understand that the automakers have estimated that they may have to produce large numbers of hybrids in order to meet the standards in the years 2022 to 2025, which again as far as NHTSA is concerned there are no standards. We have to do an entirely new rulemaking before we make those standards, so we just have what we call augural standards. It is sort of a hypothetical projection of what those standards would be based on what we knew in 2012.

All that said, the manufacturers are able to produce whatever

mix of vehicles they wish in order to comply with the greenhouse gas standards and the fuel economy standards as well. So it is really up to what the consumer choice and what the manufacturer choice is as to what mix of vehicles they will build and sell.

Mr. Olson. I am out of time. Go Texans. I yield back.

Mr. Burgess. The chair thanks the gentleman. The gentleman's time has expired. The chair recognizes the gentleman from California, Mr. McNerney, 5 minutes.

Mr. McNerney. Well, I thank the chair. I don't really need to brag about California teams, so I won't do that.

But industry usually squawks when emissions or safety standards are issued that the costs are going to go through the roof; that the sky is going to fall. But American innovation has proven established industry wrong time and time again. I don't think I even need to give examples.

But now as I went over in my opening statement and as you all confirmed in your statements, American innovation is exploding again here. I was struck by the positive tone of both of your opening statements.

So Mr. Hemmersbaugh, you mentioned that automakers are adapting at a great rate to the new regulations. I know that in California we are creating jobs. Tesla is there, battery manufacturing, and other manufacturing related to automobile are

creating thousands of jobs. So how are these standards affecting employment in the rest of the country?

Mr. Hemmersbaugh. I don't have a good answer for that or good data for that. I would be happy to bring it back to you if you want to submit a question for the record, or we can just send it back to you. But the employment impacts is not something that we closely track. We do consider economic effects overall in setting the standards, setting the maximum feasible standards, but we have not to my knowledge closely looked at specific employment, and certainly not specific regional employment effects.

But as I said, we will be happy to respond to that when I am back at the office and can get my fingers on --

Mr. McNerney. Well, that might be a good thing to include in your analysis. And you mentioned that the EPA and NHTSA's modeling were done independently. Could you describe the model a little bit, what is involved in it, how it works. Is it a computer model?

Mr. Hemmersbaugh. They are computer models. They are extremely complex. The NHTSA's model starts out with modeling of technological effectiveness rates from a model developed and used by the Argonne National Laboratory, which is also by the way the model that most of the auto industry uses.

That develops certain further inputs that are then input to the NHTSA CAFÉ model, or we sometimes call it the Volpe model because those are at the Volpe Center, the people who run that model for us. And then from that we generate the numbers and the analyses that we then slice and dice and figure out different effects and different costs.

Mr. McNerney. And some of this is peer reviewed in papers, in academic papers and so on?

Mr. Hemmersbaugh. Yes. Yes. The models have been peer reviewed. The Argonne Lab standard, I think, is pretty much the gold standard for this kind of modeling and it is something that we have used over time. Our CAFÉ standard is structured around our statute. The CAFÉ model is built to fit the statutory requirements and so forth, so it is a particularly, we believe, well fitting, tight fitted model that has benefited from not only peer review but a lot of stakeholder input over time.

Mr. McNerney. Thank you.

Ms. McCabe, again very positive. Automakers are adapting rapidly. They are meeting standards at lower costs than expected. They are outperforming standards and the auto industry is well positioned. Those are some of the statements you made. Could you expand on the statement that they are meeting standards at lower costs than expected?

Ms. McCabe. Well, sure. And before I do I just want to note in response to a question you asked earlier, there is a discussion of employment impacts in the draft TAR, and we predict fairly modest employment increases related to the development of new technologies. But I also point out that there are record car sales for the last couple of years, and so things are going well in the industry.

So what we did in developing the TAR was to gather as much information as we could about the technologies that automakers are using, expect to be using, and based on some of our own work of where we actually have vehicles in our lab and take them apart and put them back together and try different things out.

So we were able to discern that some of the technologies that we expected not until later in the program are already being implemented in these early years, and that the cost of the vehicles are in line with what we expected out in the later years of the program at about between 900 and $1,100 per car when you get out to the end. So the technologies are clearly moving ahead more quickly than anybody anticipated.

Mr. McNerney. And the savings in terms of gasoline or fuel consumption is greater than the initial cost?

Ms. McCabe. Well, to the extent that there are more choices of cars that are beating where we expected the standards to be,

every additional mile per gallon is money saved for that motorist.

Mr. McNerney. Thank you, Mr. Chairman.

Mr. Burgess. The gentleman yields back. The chair thanks the gentleman. The chair recognizes the gentleman from West Virginia, Mr. McKinley, 5 minutes for questions, please.

Mr. McKinley. Thank you, Mr. Chairman. There is certainly a lot of issues we could go in this direction. I have heard some people speaking first about the global climate change and the impact, and I think we all realize that through the CAFÉ standards it is going to have virtually no impact on the global climate change. You and I both know that.

And I think having the CAFE standards, the interesting part is that the thing apparently we are willing to do is ignore the cost of life and injuries that have occurred as a result of our efforts in America to reduce our consumption. That they have said in this report that 46,000 people have died in crashes in cars -- if they had simply been driving a heavier car in that time. But people are trying.

So in a feel-good mood to try to get our CAFE standard, get our less consumption, we are going to smaller, lighter cars. We know that 23 percent of the weight of a car has been reduced over the numbers of years. That has increased the number of rollovers and increased the number of deaths.

So this feel-good attitude that I hear in Congress and through this administration of trying to enhance this, it is not going to affect the environment -- we know that -- and it is also putting the lives of people at risk. And I think we all, even from the National Highway, your own report has come out and said that for each 100 pounds that you reduce you are going to increase the accident or the death rate one percent of people driving cars.

I don't accept all of that. I know it is fact like that but I am not accepting that that is the direction we should be going in. But we are going to lose that argument, we understand. The feel-good attitude from this administration and some folks here want to have us continue in that direction.

What I am more, equally as concerned about are people in rural America that this cost that you are imposing on us is going to be passed on to the consumer. And we are seeing from, I guess it is from the National Highway, someone has come up or said that it is going to increase the price of cars somewhere in the neighborhood of 2- to $3,000 to make this achievement.

But having said that how do we justify increasing that cost to people in low-income states like West Virginia or Arkansas or Mississippi, because we have to buy those cars too. It is one thing if you want to promote the car in Connecticut or Maryland where there is $70,000 median family incomes, but in rural America

it is in poorer states at $38,000, $39,000 or $40,000 that is a big discrepancy.

But yet we are trying to buy the same car, and because of this feel-good attitude that we are having with it that this report that I have been given says that we are going to reduce, with this increase of the vehicles we are going to reduce, three to four million people aren't going to be able to buy a new car. And we are going to remove 5.8 to 6.8 million people, licensed drivers, to be able to buy a new car and we are forcing them to buy an older car. I am troubled with this.

So how all would you respond? Do you think these reports are wrong from the insurance groups or the other entities that have put out reports about safety and cost? Who can answer that?

Mr. Hemmersbaugh. I will start. With respect to the cost and the concern about pricing people out of the ability to buy cars, I want to give you a few numbers. The overall cost we estimate in the TAR, the overall cost of this rule by 2025 if we kept the same standards, which again we are going to revisit those standards, but if we kept the standards it would $87 billion. At the same time, the overall benefits we estimate are 175 billion, so essentially --

Mr. McKinley. Am I supposed to feel good in West Virginia then? I can't buy a car but health benefits are going to improve

around the country? I want to get back to specifics. Don't talk at 30,000 feet to me. Get down to what, if that cost, the increase of that cost is going to be a car of $3,700, how is someone with a $36,000 median family income going to be able to afford a new car?

Mr. Hemmersbaugh. I have a couple thoughts on that. One is let's bring it down to an average per car. We estimate in the TAR, we, NHTSA, estimates in the TAR that the average cost increase for a car by 2025 will be approximately $1,200. That $1,200 is more than completely offset by an estimated $1,900 in savings, in fuel savings, and that is just fuel alone. That doesn't take into account the climate benefits and the things about which some disagreement has been expressed.

Mr. McKinley. I am sorry. My time is expired, but if I could reclaim it. It says based on the National Highway Traffic Safety it is $2,937, not 800 and some dollars, sir.

Ms. McCabe. Congressman, if I could clarify just a couple of things. I want to make clear that everybody understands that given the design of the program nobody is required to buy any particular car. The automakers in fact are and will be able to offer a wide range of cars going from very modestly priced cars as they do now to higher end cars as they do now. And so there will be cars available for people in every income level and they

will save money immediately because of paying less for gas.

I also wanted to clarify that the first comments you made before, and Mr. Hemmersbaugh may want to add to it as well, in terms of lightweight cars, the whole design of this footprint-based approach to the cars is to make sure that we are not sacrificing safety for this environmental and fuel economy benefit. This program does not require cars to be made lighter. It allows the automakers to provide a range of cars so that they can fully take into account all of those considerations.

Mr. Burgess. The gentleman's time has expired, so I thank the gentleman. The chair recognizes the gentleman from New York, Mr. Tonko, 5 minutes for questions.

Mr. Tonko. Thank you, Mr. Chair. Ms. McCabe and Dr. Hemmersbaugh, welcome, and thank you for your work very important to our environment.

Is it accurate that for each size or footprint of vehicle there is an individual fuel economy target set?

Mr. Hemmersbaugh. Yes. That is correct.

Mr. Tonko. And is it accurate that instead of a uniform CAFÉ standard each manufacturer now has a unique CAFÉ standard?

Mr. Hemmersbaugh. Yes, each manufacturer has a Corporate Average Fuel Economy standard.

Mr. Tonko. And that is based on what? Is it the vehicles

that they manufacture and sell or --

Mr. Hemmersbaugh. So as you rightly stated at the start, there are based on the footprint of each vehicle, or that is essentially the area defined by a square under the wheels of the car, for each footprint for area occupied by a car there is a different standard.

So depending on the manufacturer's mix of vehicles, you average the target fuel economy into a single thing for each manufacturer's fleet which comes up to an average, or the Corporate Average Fuel Economy. So a manufacturer who chooses to build, for example, primarily larger vehicles, cars and trucks that are larger and heavier weight, will have a lower Corporate Average Fuel Economy estimate and similarly a higher -- Ms. McCabe can speak to this -- but similarly a higher carbon dioxide emissions.

Mr. Tonko. Thank you for expanding upon that because I know it was talked about a little earlier. But I think it is fair to say today's CAFÉ system is much more flexible than it was in the 1970s and it is not the case that all vehicles must meet a set standard. The standard will adjust based on market trends and other factors.

Can you explain how this flexibility helps both automakers and consumers?

Mr. Hemmersbaugh. Well, the flexibility means that automakers can produce and consumers can demand or purchase vehicles of the size and other parameters that they want without -- when, if we go back in contrast to how it was before 2007, there was a single flat average. And so if you built more larger vehicles there would have to be, the manufacturer would have to compensate on the other side by building more smaller vehicles that got better gas mileage.

Today there are individual standards for each footprint of a vehicle, so that really advances consumer choice and manufacturer choice while at the same time ensuring that we have increasing stringency in the fuel economy standards year over year over year.

Mr. Tonko. Thank you. So if I am understanding this correctly, this will ensure that all models will get more efficient over time and that automakers can comply even if consumers are opting for larger cars or trucks.

Ms. McCabe, your testimony states that automakers are already ahead of schedule to meet standards for upcoming model years and they are rapidly adopting technologies for greenhouse gas reductions. Did the TAR find that the targets for later model years can be met by mostly efficiency improvements to gas-powered engines?

Ms. McCabe. Yes, it did. That there are technologies that are applied to advanced gasoline engines that will be the predominant pathways for automakers should they choose to go that way.

Mr. Tonko. Okay. And, you know, one of the more encouraging findings of the draft TAR was that technological innovation has moved the whole process with our automakers. As automakers continue to innovate does new technology give them more flexibility in how they meet the standards?

Ms. McCabe. Oh, it certainly does. And this has been the triumph of the auto industry over decades in this country is that they continue to innovate and find new things and these standards go out 9 years ahead. And as the chairman mentioned before in talking about autonomous vehicles, we really don't know what everybody is going to invent between now and then, but we know they will because they always have.

Mr. Tonko. Right. So with challenges continuing, with certain technology outperforming the agencies' expectations, is it possible that some current model year vehicles may already be compliant with projected standards for model year 2020 and beyond?

Ms. McCabe. Oh yes, there are a number of model vehicles out there already complying with the 2020 year standards.

Mr. Tonko. Then, so what do you think this says about the automakers' ability to meet the standards with currently available technology?

Ms. McCabe. We think it is quite achievable based on the information that we have in the draft TAR. And as I have said, you know, we welcome everybody's views on that. But based on our information which is driven in a large part from our conversations with the automakers, because of course we have to be in very close communication with them, it is very encouraging.

Mr. Tonko. Well, I thank you. As I said earlier in my comments, America has always stepped up to challenges, and with the intellectual capacity that we bear as a nation I think we are up for challenges and we respond well with our pioneer spirit. With that I thank you and yield back.

Mr. Burgess. The gentleman yields back. The chair thanks the gentleman and the chair recognizes the gentleman from Illinois, Mr. Shimkus, 5 minutes for questions, please.

Mr. Shimkus. Thank you very much, Mr. Chairman. I am over here. It is good to have you. You have already been probably told there is competing hearings, so we are bouncing back and forth. And it was easier when we are in the same building, but when we are in different buildings it takes a little bit longer.

So Ms. McCabe, I want to follow up on actually some of the

questions. In your testimony you were talking about the hundred cars, SUV, pickup versions that meet 2020. Can you provide us three pieces of information to follow up? Data is important. And it is not adversarial, it is just to help us analyze.

What percentage of vehicle sales do those hundred cars, SUVs, and trucks represent so to get an idea of, you know, the market acceptance and those totals. What is the price differential versus the similarly situated cars, SUVs, and trucks because there is going to be a debate about how costly are cars and what is affordable.

How many of the hundred also meet EPA and NHTSA requirements by 2025? So we have got 2020 which you have addressed, but does any of these hundred meet 2025? And that would be helpful for us if you can provide us with that. And I know Mr. Hemmersbaugh is taking notes too, so however you can work on those.

Let me ask on the -- has the EPA assembled any vehicles with the various technologies outlined in the draft Technical Assessment Report to see how they actually function in real-world driving conditions?

Ms. McCabe. Well, we do have the ability to test out these technologies both by getting cars from manufacturers that have the technologies on them and then also working to build them in our lab as well. And part of the research that the automakers

certainly do is to make sure that those technologies will be reliable, will last for many, many thousands of miles; that that is part of the routine QA and product development that the automakers do.

Mr. Shimkus. So you are getting that information from the automobile dealers. You are not doing any of that research on your own? So a lot of us, I remember driving in Colorado and stopping at a convenience stop and there was this pickup truck. It was dark. It was black. It was kind of covered up in fabric and they were driving it all over doing real-world testing.

Ms. McCabe. Yes. Yes.

Mr. Shimkus. Which was then of course logos, no logos, all this top secret stuff --

Ms. McCabe. Right, right.

Mr. Shimkus. -- to get real-world conditions. So what we are trying to just ascertain is, is that information just coming from the industry, or are you all doing based on what you perceive to accomplish in the technical review are you testing real-world standards?

Ms. McCabe. We do do testing, confirmatory testing ourselves to check the performance of these vehicles.

Mr. Shimkus. Because we found out our country is big and large and diverse and there is very, very cold and there is very,

very hot and --

Ms. McCabe. Absolutely. That is why our lab is in Michigan.

Mr. Shimkus. That is right. Ms. McCabe, while the CAFÉ and the greenhouse gas standards are affecting cars and light trucks, the renewable fuel standard is transforming motor fuels. Are there potential conflicts between these two programs, and if there are how can they be addressed?

Ms. McCabe. I am sorry. Conflicts between --

Mr. Shimkus. The RFS which is kind of transforming the fuel mix --

Ms. McCabe. Oh, the RFS. Sure.

Mr. Shimkus. -- and you have greenhouse gas and you have CAFÉ so we have got these different programs. Are there conflicts?

Ms. McCabe. No, not at all. Not at all. The RFS was established by Congress to encourage the use of non-fossil fuels which are good for the climate, and this program encourages the more efficient and better fuel economy which will reduce greenhouse gas emissions. And in fact if automakers are building flexible fuel cars that can use renewable fuels, there is a provision in the greenhouse gas program to give credit for that. So they are complementary.

Mr. Shimkus. Right. So then, Mr. Hemmersbaugh, obviously one of the points of discussion will be how does a national program, how are you going to harmonize the agency standards when NHTSA and EPA have different credit-trading, credit transfer caps, and penalties for noncompliance? Are you all talking about this and trying to figure out how we are going to do this?

Mr. Hemmersbaugh. Absolutely. We have worked very closely with NHTSA and EPA as well as with the CARB to try to harmonize the standards to the best of our ability within our separate statutory commands. And NHTSA has some statutory requirements that we don't have flexibility to change, but we have worked hard to have a single set of standards that a manufacturer can meet by designing a single fleet that will comply with all the standards. And I misspoke. I didn't mean a single set of standards, I mean a harmonized set of standards.

Mr. Shimkus. Right. And I think, if I can just jump in. My time is running out -- is that so there is a point being that to try to harmonize these there may be a need for some legislative change to help ensure that we actually have one set of standards that can harmonize, because it is our impression that you are handcuffed a little bit based upon current law. You have to do these certain things and you would need a legislative change to maybe be a little more flexible?

Mr. Hemmersbaugh. We absolutely would be happy to look at any proposed legislation, provide technical assistance, whatever we can do.

Mr. Slavitt. Great, thank you. I yield back, Mr. Chairman.

Mr. Olson. [Presiding.] The gentleman's time is expired. The chair calls upon another Houston Texans fan, Mr. Green, for 5 minutes.

Mr. Green. Thank you, Mr. Chairman. And since we are talking about vehicles, both my truck and my cars have our Texas license plates on them. But I appreciate and hopefully they will do very well tonight. And I am sorry my colleague from Massachusetts, Mr. Kennedy, is not here so we could have some fun.

I want to thank you for holding this hearing, because this is one of the first that we have had for a number of years and because we are in toward the end of the public comment period for the technical assistance. And I want to thank our witnesses before us today in providing the many perspectives we need to understand how this policy affects consumers, manufacturers, and the environment.

The program affords manufacturers significant flexibility in how to meet the standards. It also is important to make sure consumers have choices to get a vehicle that meets our needs.

For example, on my every day in Houston, Texas, I use a Malibu that gets decent mileage, but sometimes we do have a little flooding in there so I use a Tahoe that probably gets ten miles less per gallon. So consumers need that choice too. Typically in Texas we have, I used to hear the Suburban was the national truck of Texas.

But one of the questions I have is that several witnesses on the second panel point out that EPA and NHTSA use different models to assess the technological feasibility and costs associated with these rules. My first question, does this hamper your ability to align the standards for these programs if the two agencies use different vehicles, different models?

Ms. McCabe. Well, I will start and if Mr. Hemmersbaugh wants to add he certainly can. We actually think that the two agency using somewhat different models is a strength of the program, and as the TAR reflects our results are right in line with one another for the most part. And it makes sense that the two agencies would have different tools that they would use, different methodologies that they would use.

All of this is information and material that we discuss widely with the industry and look forward to people's additional comments on it. But we think it actually strengthens the record for the findings that the agency will ultimately make.

Mr. Green. That is interesting because, you know, it seems like we would want to, both agencies would want to use, you know, the same model so they could, because they have different requirements for each agency to look at. But anyway, do the conclusions of your analysis differ widely?

Ms. McCabe. No, they don't. Well, one way in which they do differ is the choices that each model makes about the least-cost ways for the automakers to be able to comply. And again I think that is a strength because it emphasizes that there are multiple pathways that automakers can choose. But when it comes to the ultimate conclusions about whether the technologies are available and the expected costs, the two analyses are quite well in line with one another.

Mr. Green. Before I get to my last question before my colleague from Illinois, Mr. Shimkus, leaves, I am not so sure the RFS is good for the climate, but that is the subject for a different hearing we will have to have sometime.

Mr. Shimkus. Well, ask the administrator.

Mr. Green. My last question is, does the use of independent analysis strengthen your confidence in the information and assumptions of the underlying rules?

Ms. McCabe. I certainly think it does.

Mr. Hemmersbaugh. I do too. And just getting back to your

earlier question just to frame it slightly differently than Ms. McCabe, we believe that these two analyses are both robust and they are complementary and they allow for more comment on the different range of options. And that is what we are about right here in this midterm evaluation is putting out a lot of technical information and some different compliance options for the regulated community and other members of the public to comment on. So we think that is really a strength of the program.

Mr. Green. Well, and like I said, whether I am driving a Malibu or a Tahoe, over the years I have done that and both vehicles have improved their gas mileage.

So Mr. Chairman, I will yield back. Thank you.

Mr. Olson. The gentleman yields back. The chair calls upon the gentleman from Texas, Mr. Barton, for 5 minutes, former chairman.

Mr. Barton. Thank you, Mr. Chairman. I thank our two witnesses for being here this morning. I want to make a brief statement since I didn't make an opening statement, then I will ask a question or two.

I personally think we could repeal the CAFÉ standards in their entirety. If there was a reason to have them back in the '70s and the '80s and the '90s, with gasoline prices where they are today I think the market could do it. So that is a subject

for an entirely different hearing and we obviously need a new President. But you can make a good intellectual case to just repeal CAFÉ and let the market operate.

But since we have it we obviously have this mish-mash going on. We have got California's standards and EPA's standards and National Highway Transportation Administration standards, but theoretically they are all supposed to be working together and we are supposed to have what is called One National Program. I will ask each of you briefly, what is the status of this One National Program?

Ms. McCabe. I will start. We have one national program. The goal of the One National Program was that automakers would be able to build one fleet of vehicles that could be sold anywhere in the country, and they can. And the agencies work very, very closely together and we have and we will continue to do so, so that our programs are harmonized to the greatest extent feasible. And in fact they are harmonized to a very great degree, things like compliance testing and much of the obligations or flexibilities with respect to credits and that sort of thing are harmonized.

Mr. Barton. The manufacturers don't agree that they are harmonized.

Ms. McCabe. Well, they have identified a handful of issues

that they brought to us in a petition which we are considering, both agencies are considering them. And if there are other opportunities for us to improve the way the programs work together we certainly want to --

Mr. Barton. What is NHTSA's take? Do you agree with EPA or do you have a little different opinion?

Mr. Hemmersbaugh. No, we generally agree with EPA that we are working hard to harmonize and to the greatest extent they can be harmonized we have done that. I can't comment on the pending petition right now, but I would except to note that automakers have presented a variety of different options for changing credits.

Mr. Barton. Well, let me give you an example. These credits, both EPA and NHTSA use a credit program, right?

Mr. Hemmersbaugh. Correct.

Mr. Barton. Okay. The EPA credits last how long?

Mr. Hemmersbaugh. The EPA -- well --

Ms. McCabe. 5 years. 5 years except for credits earned in the first phase of the program we extended their life.

Mr. Barton. Well, I am told that NHTSA's credits last 5 years and the EPA credits last 11 years.

Ms. McCabe. Well, right. Our --

Mr. Barton. So that doesn't look like harmonization to me.

Ms. McCabe. We had a one-time, as we transitioned from phase 1 of this program to phase 2 of this program we extended the length of credits earned during the first phase so that they last 11 years. But credits earned during the phase 2 of the program under EPA's rules last for 5 years. Does that clarify it?

Mr. Hemmersbaugh. So beginning in 2016 --

Mr. Barton. If I was listening exactly I am sure it would clarify it. I kind of got lost in a daydream there. But do we agree that we at least ought to harmonize how long the credits last? Is that, or maybe you all agree that they are harmonized.

Mr. Hemmersbaugh. Yes, Mr. --

Mr. Barton. Yes. Yes.

Mr. Hemmersbaugh. -- Barton. They are harmonized beginning in 2016.

Mr. Barton. Okay. Well, the last question on that particular thing, shouldn't the credits whether they are harmonized or not be used by both programs?

Ms. McCabe. Well, we think it is important that both programs have a crediting system, which they do.

Mr. Barton. Okay. But the credit system is a little bit differently, is a little different. I am just saying if we are going to have a program and you are going to try to harmonize it, let's call it apples and apples and have it comparable. That

is all.

Mr. Hemmersbaugh. And we increasingly are harmonizing. We are getting to the point where most of the differences between the two programs are statutory and are things that we are not able to change without a change to the statute.

Mr. Barton. So you are saying that there may be some things the Congress has to change the statute?

Mr. Hemmersbaugh. You could evaluate and determine whether that made sense, yes.

Mr. Barton. Well, see, I want to repeal the whole program, so that makes the most sense to me. But we probably don't have the -- you know, Ms. Schakowsky is rolling her eyes over there. If Mr. Trump is President, Ms. Schakowsky, we will be back. With that I yield back, Mr. Chairman.

Mr. Olson. The gentleman yields back. The chair calls upon the gentlelady from Florida, Ms. Castor, for 5 minutes.

Ms. Castor. Well, thank you, Mr. Chairman. First of all, I want to thank the National Highway Traffic Safety Administration. This summer you all came to Tampa. In fact, Dr. Mark Rosekind, the administrator, came himself and helped with outreach on child safety seats for many of my neighbors. He set up a whole section, a whole facility to make sure that folks know how to buckle in their kids and secure their seats,

and highlighted the airbag recalls where it is especially important in a steamy, humid area like mine in the Tampa Bay area. So I really appreciate you doing that and highlighting the safercar.com website where people if they have questions about airbag recall they can go to get more information.

And I appreciate you calling this hearing. I think it is overdue. But CAFÉ standards are a great example of American ingenuity and innovation. They are really paying off for American families and businesses of folks we represent back home. And fuel economy and greenhouse gas emissions controls now are vital at a time when we must tackle the increasing costs of the changing climate, so we can't lose sight of that.

And I also appreciate all of the automakers, states, all of the environmental advocates coming together to make progress. And here at the end of the Obama administration, I want to say thank you to President Obama and everyone in the Administration who has done a fabulous job for consumers when it comes to fuel economy.

Ms. McCabe, how much have American consumers saved since, over the lifetime of the CAFÉ standards program which was originally adopted in 1975?

Ms. McCabe. Oh boy, I don't actually have that number for you, Congresswoman, but we can certainly see if we can come up

with that. I mean it is clear that cars across the range of big, little, in between, are much more fuel efficient than they were 10 years ago, 20 years ago, 30 years ago. Just absolutely no question.

Ms. Castor. Okay. Yes, please get that. And I bet a lot of the automakers and the advocates out there will have their estimates maybe on the next panel as well.

You have recently released a Technical Assessment Report and asked for comments. In what we know so far is automakers have exceeded expectations on the miles per gallon and fuel economy. Over the history of the program goals have been very important, they have helped everyone focus on higher mileage standards. So what do you think at this point? If they have exceeded expectations will you press for higher standards?

Ms. McCabe. Well, of course we have not put out any sort of proposal with respect to the regulatory decision that we have to make. The stage we are at right now is putting out the technical information. So we won't opine on that until we issue a proposed determination after we have seen everybody's comments.

But I will say that the results to date are encouraging, and I would agree with you that goals are important to set. And I think when these standards were issued in 2012 with support from the industry, everybody recognized that they were

challenging and that these were big challenges that we have to rise up to in this country and that people were up to doing it. But that is why we have this midterm review so that people can weigh in again.

Ms. Castor. And one of the remarkable developments lately is the fact that gas prices are so low. I never thought that we would see prices, in the Tampa Bay area prices have been hovering just above $2 per gallon for many, many months. How does the fact that we have had these sustained low gas prices, how does that impact the technical review and the National Program for fuel economy?

Ms. McCabe. Yes, it is clearly an issue of great interest in it, and as you say the prices, nobody expected them to be this low and we don't know what they will be 2 years from now, 4 years from now. Nobody knows, given the way they have gone up and down. So we want a system that is robust and anticipates all of those eventualities.

But it is the case that when gasoline prices go down people may choose larger cars because they are not feeling the cost of gasoline so much. However, no matter what car you buy and no matter what gas costs it is still better to pay less for it. And so a fuel efficient car even in a time of low gas prices is something that we know consumers care about.

Ms. Castor. Thank you very much, and I yield back.

Mr. Olson. The biggest fan of the Houston Cougars in Florida yields back. The chair calls upon the gentleman from Ohio, Mr. Latta, for 5 minutes.

Mr. Latta. Thank you, Mr. Chairman, and thanks for our panel for being here. I appreciate it. And I think the gentleman from Illinois said a little bit ago we have two different hearings going on so we are kind of shuffling back and forth, so I am sorry I missed your opening statements.

But if I could, Administrator, if I could start with my questions with you. When the EPA finalized the rule it granted multiplier incentives for electric vehicles, fuel cell vehicles, and natural gas vehicles. These incentives are useful to automakers in meeting the standards and encourages the production of these alternative fueled vehicles.

However, it did not extend these multiplier incentives to propane powered vehicles. This exclusion puts propane vehicles at a regulatory disadvantage compared to those from the other alternative fuels. Could you explain why the propane vehicles weren't given the equitable treatment by the EPA when the rule was finalized?

Ms. McCabe. You know, Congressman, I wasn't intimately involved in the development of the 2012 rule, so I would like,

if I could, to get back to you with a specific answer to that question.

Mr. Latta. Yes, if you could, because that is important. And kind of following up with that, with the midterm evaluation underway will the EPA continue to examine the application of the multiplier incentives or other compliance incentives at this time?

Ms. McCabe. Well, the charge in our rule is to look at the standards themselves in 2022 through 2025 and determine whether they are still appropriate or whether they should be made less stringent or more stringent. We will see what comment we get from people on the draft TAR, and of course carefully consider any input that we get as we make that particular regulatory recommendation.

Mr. Latta. Okay, because that is kind of following up on the second point. I just want to make sure then, because you would be willing then to reconsider the exclusion of the propane from the current incentives in order to bring parity to the alternative fuel marketplace?

Ms. McCabe. Well, I can't speak to it specifically today, Congressman, but certainly will take your concern back to my team.

Mr. Latta. Okay. But if I could hear back from you I would appreciate that.

Ms. McCabe. Sure.

Mr. Latta. Mr. Hemmersbaugh, the NHTSA just released the proposed guidelines for autonomous vehicles earlier this week. In making the announcement, the secretary said that your agency would be conducting a number of public meetings around the country, which I support. I think that that kind of transparency and public engagement is important.

And one thing that would be tremendously helpful here would be if the NHTSA and the EPA would be willing to hold similar public workshops to review the Technical Assessment Report methodologies with technical experts. Especially given the significance of TAR, would the agencies be willing to commit to holding a public workshop or a series of workshops?

Mr. Hemmersbaugh. As you may know, prior to publishing the TAR we had a technical workshop which we went through with all the experts and sort of walked through the technical concerns and features of the TAR. But we are, going forward we are committed to getting as much public input as we can. We have, as you know, a comment period, but we are going to continue to take data and information in any way we can get it that we can reasonably accommodate it until we get to the proposed rulemaking for the NHTSA standard.

So I can't say today that we necessarily will do x and y

field hearings or anything like that but it is certainly something that we are open to and will consider.

Mr. Latta. Well, maybe we can communicate on that again because I think it is very, very important that that occurs.

Let me follow up. Throughout the TAR, the EPA and NHTSA use different inputs and assumptions. For example, the percentage of higher compression ratio naturally aspirated gasoline engine automakers are expected to deploy to meet the model year 2025 standards differs by about 43 percent. Similarly, the percent of the turbo-charge in downsized gasoline engines differs by about 21 percent and the percent of the stop-start technology differs by 18 percent. Can you explain how we have such a discrepancy in all the different percentages there that have come out?

Mr. Hemmersbaugh. I think no single reason explains, but there are several different reasons. One is that we use different models and those different models are each structured to the demands, the different demands of our statute. Another is that we use different inputs. As I was saying earlier, we use, we NHTSA, use the Argonne Labs' technology effectiveness model that then the outputs of that are the inputs to our CAFÉ model. EPA uses different models.

So there are inherent differences both in the inputs and

in the way that the models treat those inputs for purposes of meeting our slightly different statutory obligations. Another reason I think that maybe have some, account for some of the difference is that NHTSA used a different baseline year than EPA did. We used a 2015 baseline year and EPA used a 2014 baseline year. So that accounts for some of the differences as well.

But the main thing I would like to emphasize is that this provides a range of different options that people can look at, that commenters and look at and tell us where we are getting it right, where we are getting it wrong and what adjustments can be made. So this sort of, you know, array of different options is really a benefit to the commenting community.

Mr. Latta. Well, thank you very much, Mr. Chair. My time is expired and I yield back.

Mr. Olson. The gentleman's time is expired. The chair calls upon the gentleman from New York, Mr. Engel, for 5 minutes.

Mr. Engel. Thank you, Mr. Chairman. I want to thank the witnesses. You can see there is a lot of interest here. We have had a lot of members here. I have a few questions I am going to try to move on fast.

Implementation of CAFÉ standards has been happening alongside the recovery of the auto industry. In 5 years into this implementation new vehicles are significantly more fuel

efficient, consumers are buying automobiles at a record pace, and U.S. automakers have made a dramatic return to profitability. So aren't the standards working as proposed, even though my friend Mr. Barton wants to repeal the whole program? Aren't these working as proposed?

Ms. McCabe. Well, we think they are, given the number of additional models that are available for customers to buy that get increasing fuel economy.

Mr. Hemmersbaugh. Yes, we at the Department of Transportation and NHTSA believe they are working well and as intended.

Mr. Engel. Thank you. In the past few years we have seen substantial new technologies come to market including advanced engines, improved transmission systems, light weighting of vehicles and more efficient tires. Do you think that the relaxation of CAFÉ standards would stifle additional advancements?

Ms. McCabe. Well, I think that the standards do provide a goal and a challenge to the manufacturers, and I think that that kind of goal and expectation has been helpful to drive innovation over years in the auto industry as well as other industries. So I think it is important to have reasonable and achievable but ambitious standards given the stakes here, which

is fuel economy, consumer choice, cost and the impact that greenhouse gases are having on our environment.

Mr. Engel. Mr. Hemmersbaugh, do you agree?

Mr. Hemmersbaugh. I agree.

Mr. Engel. I agree. Okay. I have been an advocate for many years of increased production of flex-fuel and alternative fuel vehicles. When car makers sell flex-fuel vehicles that are built to run on either gasoline or E85, they earn credits that help them to comply with the CAFÉ requirements.

Can you explain how that works and share your thoughts on whether we should continue these credits, because only about two percent, I am told, of gas stations in the U.S. sell E85 so most flex-fuel cars run on gasoline and don't generate the intended benefits because they can't get it. Can we remedy that? Should we, and if so, how?

Ms. McCabe. Yes. So there is a provision in the rule as you identify for flex-fuel vehicles to get credit in the calculation of fuel economy, and EPA keeps a watch on the very issue that you identify which is how often are those vehicles actually driving on E85. And we have the ability to adjust the credit that is currently in the rule to reflect real-world conditions.

As we discussed earlier, we have this complementary program,

the Renewable Fuel Standard, the major purpose of which is to try to increase the availability of renewable fuels including E85. And so there is significant efforts that not only EPA but USDA and others are putting into that effort. The more that that is successful, the more we will see these flex-fuel vehicles actually operating on E85 and the CAFÉ standards and the GHG standards can accommodate that.

Mr. Engel. Thanks so much. Let me see, in 2012 it was widely reported that about 60 percent of vehicle sales would be cars and 40 percent would be trucks and these numbers seem to have flipped, so it is now 60/40 the other way. Does that consumer choice impact industry's ability to meet their CAFÉ standards?

Mr. Hemmersbaugh. No. Because the standards are designed based on the footprint of the vehicle, every size of vehicle has its own fuel economy target. So the manufacturers' mix of vehicles -- and say that they are as you suggest. Our numbers suggest more like 50/50, light vehicles and, or trucks and light cars, but whatever the percentage is, the beauty of the standards is that each size of vehicle has its own fuel economy standard, so there is no need to have some corresponding offset in high fuel economy for small vehicle if they are building more larger vehicles.

So that is really an important, and as Ms. McCabe said,

ingenious innovation of the 2007 EISA statute to provide that we use these footprint standards.

Mr. Engel. Thank you. My last question is that CAFÉ standards are often linked to the 54.5 mile per gallon projection, but that is not even close to the miles per gallon estimates that will be pasted on the windows of new cars in showrooms, let alone the fuel economy that drivers would experience on the road. Instead, the calculations take into account adjustments and credits for things like electric cars, flex-fuel vehicles, energy-efficient air conditioning, and rooftop solar panels. So the result is the 54.5 mile projection is the equivalent of about 37 to 40 MPGs on the sticker.

So I am hearing arguments that additional CAFÉ credits should be awarded to the auto industry for safety improvements such as autonomous braking which in theory will prevent accidents, reduce congestion, and thus save energy and emissions. What are your thoughts on that?

Ms. McCabe. This is an issue that we are certainly hearing about. I don't think we feel like the data are sufficiently robust to make decisions on this right now, but encourage and invite everybody to continue to look at that.

Mr. Hemmersbaugh. I would just add that with respect to any proposals to change a program we would keep in mind our

overarching goal of fuel conservation, and we would view with some skepticism any credit system or other changes to the program that could undermine the gains that we have had in fuel economy.

Mr. Engel. Thank you. Thank you, Mr. Chairman.

Mr. Olson. The gentleman's time has expired. The chair calls upon the gentleman from the Commonwealth of Virginia, Mr. Griffith, for 5 minutes.

Mr. Griffith. Thank you very much, Mr. Chairman. I appreciate you all being here today. Acting Administrator McCabe, my constituents tell me that the joint EPA-NHTSA rulemaking published in August imposes the compliance burden on the manufacturers of truck trailers to achieve reductions in greenhouse gases. Is that correct?

Ms. McCabe. So you are speaking of the heavy-duty rule that we published this summer.

Mr. Griffith. Yes, ma'am.

Ms. McCabe. And it does address a variety of aspects of trucks that can contribute to lower greenhouse gases, including trailers.

Mr. Griffith. Okay. And so that brings my first question. The legal authority defines, that gives you all the right to do this on motor vehicles, defines motor vehicles to mean, and I am going to read from 42 USC 7550 paragraph 2. The term motor

vehicle means any self-propelled vehicle designed for transporting persons or property on a street or highway.

So recognizing that trailers are not self-propelled, they are not a part of the heavy truck; they are added to the heavy truck after the manufacture of the heavy truck, from whence comes your legal authority to regulate trailers?

Ms. McCabe. Well, Congressman, we lay out our response to those comments and our legal analysis at great length in the rule, but I will tell you that without a trailer a truck is not transporting goods. And so we see the trailer as an integral part of the vehicle that is covered in the Clean Air Act.

Mr. Griffith. And you and I are going to have these disagreements for years because we just see things differently and I recognize that. But in all due respect, one of the principles of law, and I understand that you are not an attorney and I am not --

Ms. McCabe. I am, actually.

Mr. Griffith. Oh, you are an attorney. Okay. Well, there you go. One of the principles is -- I was giving you credit. One of the principles is, is you go with the plain meaning of the words when Congress writes a statute. Motor vehicle means any self-propelled vehicle designed for transporting persons or property on a street or a highway.

It would be my opinion and I think based in well settled law that if you wanted to include trailers you should have asked for an amendment to the code section as opposed to deciding on your own at the EPA, well, we see the truck can't be used without a trailer to haul goods, therefore we are going to make a determination. That is our job. And respectfully, you are not elected by folks. That is our job to make that decision.

And maybe it is the right decision, but it is something that we should have decided as opposed to the EPA just deciding to rewrite the words in the code section. And so I find it very difficult to rectify. And while you may have a very lengthy clarification on how you get to that point, the plain meaning of the words are motor vehicle means any self-propelled vehicle designed for transporting persons or property on a street or highway. A trailer doesn't do anything.

Furthermore, the manufacturers of those trailers are not in most cases, I don't know of any but maybe there are some, they are not the truck manufacturers. So they are completely different entities across the board. And I am not talking about wholly-owned subsidiaries or anything like that. They are completely different companies. And so a person can go out and buy their truck from one of the manufacturers and then they can go buy their trailer from any number of manufacturers. And so

I am having a hard time figuring out how you all came to that conclusion.

Furthermore, and for many of my colleagues who may not be aware of it, there is a SmartWay program where you all encourage folks to do things on trailers and the SmartWay is currently voluntary, but appears from this new ruling that has come out that you all are making the SmartWay program mandatory. The problem that I have with that, Acting Secretary, is that helps on trucks that are going to be hauling across the highways, but it does not help in those situations where, which I am told about half of the trucks that are out there hauling things are in local traffic, sometimes congested areas, these additional costs and extra weight added to the truck by the SmartWay program which appears to now going to be basically mandatory, they don't give you any fuel efficiency for those trucks that are hauling things in a local setting.

Now if you are on the interstate highway they clearly give you benefits and the SmartWay program is beneficial to the truckers. What do you say to that? Why does it have to apply to every trailer that is sold out there when you have got a lot of folks who don't want it to go that direction because it is not going to save them any fuel efficiency or give them any benefit?

Ms. McCabe. Well, Congressman, of course I am not sure where you have concluded that the rule made the SmartWay program mandatory because it certainly doesn't. The rule sets expectations and standards for a large range of different kinds of trucks and it is very detailed and diverse based on the kinds of trucks. And we looked exactly at that question. Different standards are appropriate for vehicles that are on the highway operating at high speed, most of the time driving many, many miles, and other standards and other technologies are appropriate for vehicles that are used in urban settings and on smaller roads and stop and start and that sort of thing.

So I think you will find, and I think the manufacturers find that we have been very responsive to exactly those sorts of things and have not made the SmartWay program mandatory.

Mr. Griffith. Okay. That is not what I am hearing. My time is up. I would say though that if you are talking about the averaging features that that doesn't kick in for years and a lot of the smaller manufacturers feel like they are going to have some real difficulties.

With that Mr. Chairman, because time is up and notwithstanding lots of other questions, I yield back.

Mr. Burgess. The gentleman yields back. The chair thanks the gentleman for his questions and recognizes the gentleman from

Texas, Mr. Flores, 5 minutes for questions, please.

Mr. Flores. Thank you, Mr. Chairman, and I appreciate the witnesses joining us today. We talk about One National Program and we have had questions regarding the harmonization efforts that we have talked about. And as I have listened to the testimony and reviewed the briefing documents, it seems to me like there are four principal differences that keep us from absolute harmonization.

So the first principal is with respect to the credit carryovers -- 5 years for NHTSA; 11 years for the EPA. The second one is the carryover transfer cap which allows a manufacturer to transfer part of their credits from one fleet to another, for instance light cars to light trucks -- excuse me, cars to light trucks and vice versa. For NHTSA there is a cap of two miles per gallon per year; EPA has no such cap.

Then the third one has to do with off-cycle technologies, for instance start-stop technology, engine start-stop technology, louvers and things like that which are all pretty innovative. The EPA allows credits beginning in model year 2014, however, NHTSA is not going to start recognizing those until 2017. And then the fourth difference is that the California Air Resources Board is requiring that 15 percent market penetration of zero-emissions vehicles by 2025, and there is no such standard

for federal.

Do you all agree with those four principal impediments to harmonization, complete harmonization? I know you were writing real quickly.

Ms. McCabe. Yes. Let me address the last one that you mentioned.

Mr. Flores. And I need really quick answers.

Ms. McCabe. Yes. So there is no disharmonization there. California has independent authority and has had a ZEV program for many, many years because of their air quality problems in California. But vehicles sold in California can absolutely satisfy requirements under the EPA and the NHTSA program.

Mr. Flores. Okay. So do both of you agree then the other three standards prevent federal harmonization? Does that make sense?

Mr. Hemmersbaugh. I would like to qualify that a little bit.

Mr. Flores. Okay.

Mr. Hemmersbaugh. The credit lives as of 2016 for both EPA and NHTSA are 5 years.

Mr. Flores. Okay.

Mr. Hemmersbaugh. It was only sort of a catch-up in the start that EPA had 10 and 11-year credits. Those will all expire

by 2020.

Mr. Flores. Okay. But there is no statute that requires EPA to limit theirs to 5 years, right?

Ms. McCabe. No. That is a regulatory matter, but they are the same age now.

Mr. Flores. Okay. Okay, NHTSA's are 5 years by statute; EPA has no statute, correct? Okay, so to the extent that Congress wants to harmonize, Congress needs to come up with a statute on that issue. The second one has to do with the carryover transfer cap. NHTSA's, by statute yours is two miles per gallon per year, right?

Mr. Hemmersbaugh. Correct.

Mr. Flores. Okay. And EPA no cap, correct?

Ms. McCabe. Across vehicles?

Mr. Flores. Correct.

Ms. McCabe. Correct.

Mr. Flores. Across fleets.

Ms. McCabe. Yes.

Mr. Flores. Or from one fleet to another.

Ms. McCabe. Right. That is right.

Mr. Flores. Okay. So if we want to harmonize that that is going to require legislative action and an update to the statute. And then lastly, on the off-cycle technologies, I don't

gather that there is any statute that regulates that, that addresses this issue, right?

Mr. Hemmersbaugh. My understanding of off-cycles is that they are things that the tests don't measure, the treadmill tests that we test for don't measure.

Mr. Flores. Right.

Mr. Hemmersbaugh. But do contribute to fuel economy and greenhouse gas reductions. So my understanding is there are, the statute, the NHTSA statute anyway is silent on that.

Mr. Flores. Right.

Mr. Hemmersbaugh. And we had previously --

Mr. Flores. Which means there is no statute.

Mr. Hemmersbaugh. Yes. Well, but we had previously interpreted that as meaning we weren't authorized to do it. We subsequently changed our interpretation such that now starting in 2017 we will consider off-cycle credits.

Mr. Flores. All right. Ms. McCabe.

Ms. McCabe. Yes. So our statute requires a two-cycle test, but it does not preclude the use of off-cycle credits.

Mr. Flores. Okay. So to entirely harmonize these we would need legislative action. All right. So I think we know what our job is now in terms of Congress coming up with a legislative fix for these three principal areas of harmonization.

I have a quick question. You talked about E85 vehicles a minute ago. E85 fuel has fewer BTUs of energy per gallon and therefore the vehicles that are burning E85 get about a third lower miles per gallon. So what is the emissions impact? I know that some people claim ethanol has a lower emissions profile than vis-a-vis gasoline, but how much of that is offset by the fact that you are getting one third less miles per gallon?

Ms. McCabe. When it comes to greenhouse gases, the research that the agency has done to date on this program shows that there is a benefit. There is a carbon benefit in using E85.

Mr. Flores. So if you are burning 20 gallons of ethanol you have a lower greenhouse gas output than 12-1/2 gallons of gasoline. Is that what you are telling me?

Ms. McCabe. I believe that is right, Congressman. We will double --

Mr. Flores. Can you supplementally answer that?

Ms. McCabe. Absolutely.

Mr. Flores. And some of the statistics, too. I want to see the test.

Ms. McCabe. Sure. Yes.

Mr. Flores. And I have used up too much of my time so I am going to stop. Thank you.

Mr. Burgess. The gentleman yields back. The chair thanks

the gentleman. Seeing no further members wishing to ask questions of the first panel, I do want to thank our witnesses for being here today. This will conclude our first panel, and we will take a very, very brief recess to set up for the second panel. Thank you for being here today.

[Whereupon, at 12:07 p.m., the subcommittee recessed, to reconvene at 12:11 p.m., the same day.]

Mr. Burgess. We will call the committee back to order. We may still be waiting on one witness to join us, but in the interest of everyone's time, why don't we go ahead and restart. I do want to thank everyone for their patience in being here today.

Moving into the second panel for today's hearing, we will follow the same format for the first panel. Each witness will be given 5 minutes for an opening statement followed by a round of questions from members. For our second panel we have the following witnesses. You reversed order on me.

We have Mr. Mitch Bainwol, the president and CEO of the Alliance of Automobile Manufacturers; Mr. Peter Welch, president of the National Automobile Dealers Association; Dr. John Graham, dean of the School of Public and Environmental Affairs for Indiana University; Mr. John German, senior fellow, U.S. co-lead, the International Council on Clean Transportation; Dr. Mark Cooper,

director of research from the Consumer Federation of America; and Mr. John Bozzella, president and CEO of the Global Automakers.

We will go in reverse order. We will start with you, Mr. Bainwol, 5 minutes for questions.

STATEMENTS OF MITCH BAINWOL, PRESIDENT AND CEO, ALLIANCE OF AUTOMOBILE MANUFACTURERS; PETER K. WELCH, PRESIDENT, NATIONAL AUTOMOBILE DEALERS ASSOCIATION; JOHN D. GRAHAM, DEAN, SCHOOL OF PUBLIC AND ENVIRONMENTAL AFFAIRS, INDIANA UNIVERSITY; JOHN GERMAN, SENIOR FELLOW, U.S. CO-LEAD, INTERNATIONAL COUNCIL ON CLEAN TRANSPORTATION; MARK COOPER, DIRECTOR OF RESEARCH, CONSUMER FEDERATION OF AMERICA; AND, JOHN BOZZELLA, PRESIDENT AND CEO, ASSOCIATION OF GLOBAL AUTOMAKERS

STATEMENT OF MITCH BAINWOL

Mr. Bainwol. Chairman Burgess, Ranking Member Schakowsky, and members of the committee, thank you for this opportunity to testify today on behalf of 12 iconic OEMs from the U.S., from Europe, from Japan, who together represent about 75 percent of the domestic market. Automakers are investing a staggering $100 billion a year -- that is $100 billion with a B -- to make today's cars the cleanest, safest, the most fuel efficient ever.

Let me start by stipulating that we support the goals of increased CAFÉ and GHG standards and believe they will be achieved and ultimately surpassed. The question isn't yes or no, but rather how, when and at what cost to your constituents. OEMs strongly embrace two cornerstones of the 2012 joint rule. First, we supported the common sense idea of a midterm review to ensure

that the underlying assumptions remain valid, and that is critical given the time horizon involved.

Second, we embrace the Administration's commitment to One National Program to minimize compliance costs and thereby help your constituents buy new cars. Now this is the TAR, this double binder is double sided. It is obviously very long and very dense. This is the portion of the TAR that addresses consumer acceptance. It is short, and as you can see not very dense and that is a concern for us.

The most critical fact about CAFÉ that it is effectively a mandate on consumption. It doesn't matter what we put into the showrooms, it matters what your constituents take out of those showrooms. Critically, CAFÉ was launched with an expectation of higher gas prices and it is being played out in a world of structural lower gas prices. That impacts consumer choice and is a game-changer.

This first graph that I think you can see on the screens illustrates the materiality of the gap. You can see the gap is consistent over time and very large, so that in 2025 in 2010 dollars the expectation was 3.87 and now the expectation is 2.76. This next graph shows what happens to the purchase of alternative powertrains when gas prices fall. It kind of looks like synchronized swimming.

And you see in the third graph that the market share of alternative powertrains is therefore sliding down. The regulators in Washington and in California want consumers to optimize. They want them to optimize fuel efficiency and carbon reduction, but consumers are making decisions that reflect a range of other priorities that are right for their families.

So this next slide shows where fuel efficiency ranks, and there you go. And it is kind of hard to see, but it is item number 26 in the strategic vision assessment of 2016. Consumers are not saying the fuel efficiency isn't good or desirable, they like it. They are saying instead that they care about a range of attributes. And your constituents are not wrong. They are doing what is right for them, but they are not doing what planners want them to do.

Now let's turn to One National Program. The short story is that it doesn't exist. There are now two separate consumption mandates, CAFÉ and ZEV. ZEVs run out of California and nine other states follow it. By 2025, the ZEV mandate effectively places a $356 tax on every car sold in America. This is important. It means California policy is raising the cost of every car your constituents buy in all of your districts.

And the federal program contrary to assurances is not harmonized. Complying with the more stringent EPA requirements

does not equal compliance with NHTSA, thus counterproductively adding regulatory costs making cars less affordable and that especially hurts lower income Americans. It needs to be fixed sooner rather than later.

To close, getting all this right really matters. If we jam standards that are inconsistent with consumer behavior we risk jeopardizing the health of this key industry leading to thousands of job losses, if not more, diminishing environmental gains and safety outcomes. We have to keep cars affordable to protect these social goals.

Now I want to make one other point here since I have a little bit more time. The Center for Automotive Research released a study yesterday and it was significant in terms of it demonstrates that there is a risk to getting this equation wrong. As I understand it, the EPA and NHTSA analysis of the TAR analysis did not do a sensitivity analysis.

What CAR did was they looked at nine different scenarios, three different gas prices, and three different costs estimates of the technology, and they ran the nine different scenarios. And they looked at what happens in terms of employment, sales, production, and it is kind of striking.

Let me take a second and run through the range. Unit sales could rise by 410,000 or fall by as much as 3.7 million.

Production could rise by 240,000 or fall by as much as 2.1 million units. Auto employment could rise by 16,000 or fall by 138,000, and with the multiplier in employment, employment could rise by 144,000 or fall by over a million jobs. That is in Michigan, it is Ohio, it is Texas, it is California, it is Illinois.

This is profoundly important because it demonstrates that if we get this equation wrong, the implications for the economy are truly profound. Thank you and I look forward to answering questions.

[The prepared statement of Mitch Bainwol follows:]

**********INSERT 10**********

Mr. Burgess. The chair thanks the gentleman. Mr. Peter Welch, you are recognized for 5 minutes for an opening statement, please.

STATEMENT OF PETER K. WELCH

Mr. Welch. Chairman Burgess, Ranking Member Schakowsky, thanks for inviting me. I am Peter Welch -- I am the other Peter Welch -- the president of the National Auto Dealers Association. NADA represents more than 16,500 franchised new car and truck dealer members who sell new and used cars and trucks, arrange auto financing, perform routine repairs, warranty and recall work on millions of vehicles annually. Local dealerships collectively employ over 1.1 million Americans in good paying jobs and are located in every congressional district.

In America motor vehicles are not luxury goods. Affordable transportation is critical to personal mobility and freedom, essential to economic empowerment and a key driver of national productivity. Cars and trucks open up employment and housing opportunities that many Americans would not otherwise enjoy.

When it comes to decisions that affect the environment, local dealerships are providing their customers with unparalleled choices. In addition to incredibly efficient internal combustion engines, franchise dealers currently have on their lots over 75 different models of hybrid, plug-in electric and battery electric vehicles. Toyota dealers are even now selling fuel cell cars.

Local dealerships consistently educate buyers on the value of these technologies and how to use these vehicles and how they can fit into their lifestyles. The number one priority at every new car dealership is to serve its customers by providing them with the choices they want and at prices they can afford. Every one of our customers deserves to be able to purchase a vehicle that is right for them.

This means that during the midterm review careful thought needs to be given to keeping the cost of vehicles reasonable and to ensuring that people can still afford to buy a cleaner, greener, safer car or truck they really need or want. Washington should not make personal mobility so expensive that it is no longer available to the average American.

Consumers finance more than 90 percent of all new vehicle purchases. When regulations drive up the price of vehicles, fewer of our customers will be able to qualify for a car loan. The average price of a new car is at an all-time high, $34,250, with an average monthly payment of $510. This is with historically low interest rates. Right now they are at like average 4.2 percent, but the terms keep getting longer and longer. They are stretched out to 68 months now, on average.

Since 2005, the percentage of personal income necessary to purchase a new vehicle has risen from 9.5 percent to 12.4 percent

today. It is taking a bigger chunk out of the wallet. This already puts new vehicle purchases beyond the reach of millions of Americans. That is why affordability is everything. We need to ensure that people can buy the cars they want or need, and make it possible for average Americans to afford cleaner new cars and trucks.

If moves here in Washington force our customers out of new cars because the technology needed to attain the 2022 to 2025 regulatory targets raise loan payments by $50 or $60 a month, many of our customers will be forced to drive less safe, less efficient, dirtier used cars, and the CAFÉ greenhouse gas regulations will become counterproductive.

Let me be clear about one thing. America's new car dealers are not on opposite sides of this debate. Dealers are in favor of national policies to reduce greenhouse gas emissions, increase fuel efficiency, and promote energy independence. What we are standing for is affordability and to make sure our customers, your constituents, are put first.

An approach that enables more customers to purchase affordable new cars and trucks will produce a winning scenario for everyone -- dealers, manufacturers and the driving public. If we work together we have a perfect opportunity in the midterm assessment to ensure that our customers have access to clean,

efficient new vehicles at affordable prices. Thank you.

[The prepared statement of Peter K. Welch follows:]

**********INSERT 11**********

Mr. Burgess. The chair thanks the gentleman. The chair recognizes Dr. Graham, 5 minutes to summarize your opening statement, please.

STATEMENT OF JOHN D. GRAHAM

Mr. Graham. Thank you, Mr. Chairman. The theme of my testimony is that a new issue should be added to the midterm review, the need to coordinate the California Zero Emission Vehicle program with the federal regulations. Specifically, I recommend that the Congress commission an independent, cost-benefit study of the California regulation and compare it to the federal regulations and look for harmonization options.

My recommendation is based on three concerns. One, from a technology perspective, regulators in Washington, D.C. and in Sacramento, California, are pushing the automakers in conflicting directions. The federal regulators expect automakers to accelerate their investments in greener versions of the gasoline internal combustion engine.

The regulators in California expect automakers in the same time frame to replace the gasoline engine with plug-in electric vehicles or fuel cell vehicles. Please note that when I refer to California, I include the nine other states mostly in the Northeast that have joined the California Zero Emission Program. In total, these 10 states account for about 30 percent of all new vehicle sales in the country.

My second concern is that it has proven much more difficult

to sell plug-in electric vehicles than many of us thought in 2002 when this regulation was developed. California expects automakers to achieve an 18 percent penetration rate of plug-in electric vehicles by 2025, updated from a previous estimate of 15 percent. But the sales of such vehicles actually declined in 2015 compared to 2014. The sales raise now about 3 percent in California, and less than one percent in much of the country.

In an excellent 2015 report, the National Research Council documented the numerous barriers to commercialization of plug-in electric vehicles, but I would like to highlight three of them that are new today compared to when California adopted the regulation in 2012. First, gas prices as everybody has noted are much lower. Instead of $4 per gallon and going higher, they are projected to be under $3 a gallon all the way through 2025.

Second of all, the federal regulations are discouraging a consumer from purchasing a plug-in electric vehicle and that is because if there are plenty of gasoline vehicles on the market getting 40 to 60 miles per gallon, how can a dealer persuade a consumer to pay extra for a plug-in electric vehicle? So the federal regulations are actually undercutting the California program.

Third, the incentives offered by the government are inadequate to spur commercialization of plug-in electric

vehicles. The generous $7,500 federal income tax credit is forecasted to expire before 2025 at least for several manufacturers. Some states such as Colorado and Connecticut have recently added incentives to purchase plug-in electric vehicles, but other states -- Georgia, Illinois, and California -- have scaled back or eliminated entirely their cash incentives for electric vehicles.

In fact, some states have added new taxes on electric vehicles because owners do not pay any gasoline tax to fund road repairs. Why should a consumer pay extra for an electric vehicle if the government is going to turn around and add an extra tax on electric vehicles? This is not a single national program that is well coordinated, let me assure you of that.

My faculty colleagues at Indiana University have recently issued a report on the many constructive policies that can be enacted to spur commercialization of plug-in electric vehicles, but if governments do not get serious about helping dealers sell electric vehicles, the California regulation which covers almost a third of the country is going to prove to be a very onerous regulation.

I conclude with two questions that I pose to my students when we discuss this issue in class. One, if California regulators are right, why not eliminate the federal regulations

and convert the California Zero Emission Vehicle program into a national regulation; or two, if the federal regulators are right, why not preempt the California regulations and let the marketplace determine what the most cost effective technologies are to comply with the regulation?

In conclusion, I recommend during the midterm review that Congress commission an independent, cost-benefit study of the California regulations compared to the federal regulations, and address this as soon as possible. Thank you very much for your time.

[The prepared statement of John D. Graham follows:]

**********INSERT 12**********

Mr. Burgess. The chair thanks the gentleman. The chair recognizes Mr. German, 5 minutes to summarize your opening statement, please.

STATEMENT OF JOHN GERMAN

Mr. German. Mr. Chairman, good morning. My name is John German. I am a senior fellow at the International Council on Clean Transportation with primary responsibility for technology, innovation and U.S. policy development. Thank you for the opportunity to appear before the committee, present our views on vehicles and technology and how they relate to the midterm review of the CAFÉ and greenhouse gas standards.

I have been actively involved with vehicle technology and efficiency for 40 years, half of that time working for auto manufacturers Chrysler and Honda, the remainder with EPA and ICCT. Over the course of my career I have seen initial cost estimates for complying with emissions and efficiency requirements consistently overstated. Not some of the time or even most of the time, but all of the time.

The reason, technology innovation that is left out of the forecast, in part because the direction, pace and cost of innovation is hard to predict, and in part because there is so much at stake that everyone involved has an incentive to focus on what is already known. In my experience, the single most important factor in the accuracy of cost-benefit projections is the use of the latest technology data. Using older data or

implicitly assuming no further innovation will occur guarantees that the cost in meeting the standard will be overstated. This is even more true now because the pace of technology development is accelerating, driven by rapid advances in computer-aided design, computer simulations and onboard computer controls.

In collaboration with engineers and analysts from major automotive suppliers, ICCT is producing a series of papers assessing technology development since the analyses for the 2017 to 2025 standards were conducted 4 to 5 years ago. These assessments cover new and improved designs, cost of production, and consumer acceptance.

The improvement in vehicle efficiency technology over the last 5 years has been astonishing. Significant technologies that were not included in the 2025 rule, but which automakers already have in production or have production plans for include naturally aspirated engines with higher efficiency Atkinson cycle and high compression ratios, dynamic cylinder deactivation that can deactivate each cylinder every other stroke, higher efficiency Miller cycle for turbo-charged engines, variable compression ratio, electric compressors to assist turbo-charged engines or eBoost, less expensive 48-volt hybrid systems, continuously variable transmission improvements, and major advancements in lightweight materials and part optimization. These developments

will make it easier and cheaper to meet the standards that was projected in the rulemaking.

The agencies extensively updated their technology analyses for the draft Technical Assessment Report released this past July. They also expanded their use of rigorous peer-reviewed teardown cost studies which is the method specifically endorsed in the 2015 National Academies of Science report. Still, despite all the updates the agencies did not include all of the technology improvements that are already happening in the market. Thus, the cost estimates in the TAR while much improved over the rulemaking are still somewhat overstated.

The Novation Analytics study prepared for the vehicle manufacturers associations is an example of a study that implicitly assumes there will be no more innovation. While this is an excellent study of 2014 technology, evaluated only technologies included in the rulemaking 5 years ago and it also assumed that the average vehicles in 2025 would be similar to the best vehicles in production in 2014.

The older technologies that were considered by Novation ignores recent innovations and artificially restricts the improvements available from conventional technology, forcing additional hybrids and plug-in vehicles to make up the shortfall. Simply put, ICCT's analysis of advanced conditional technologies

shows that automakers will not need to rely on hybrids and plug-ins to meet the 2025 standards. Moreover, the fuel savings from these conventional technologies will produce a net monthly gain for most consumers in the low gas price scenarios.

And they come with other benefits that consumers value. Turbo-charged engines deliver more torque and better acceleration at low engine speeds, more transmission gears improve launch and are quieter on the highway, weight reduction improves acceleration, ride, handling, braking, and payload and tow capacity. This isn't merely theoretical. Ford's F-150 buyers aren't being forced to take the V-6 EcoBoost engine over the V-8. Almost half of F-150 buyers willingly pay an extra $600 for it.

To sum up, the agencies' technology forecast for the 2025 rule have proved to be careful, prudent, and like all technology forecasts I have seen over the last 40 years a bit too conservative. The TAR though improved will most likely turn out the same. Thank you again for inviting me to testify here. I will be happy to answer any questions.

[The prepared statement of John German follows:]

**********INSERT 13**********

Mr. Burgess. The chair thanks the gentleman for his testimony. Dr. Cooper, you are recognized for 5 minutes.

STATEMENT OF MARK COOPER

Mr. Cooper. Thank you, Mr. Chairman and members of the committee. The Consumer Federation of America has participated in hundreds of efficiency rulemakings and regulatory negotiations and legislative hearings involving large and small energy devices from automobiles to heavy trucks to computers to light bulbs. We participate in every round of comments on the light-duty standards since the passage of the Energy Independence and Security Act.

Our technical expertise is not in the design and construction of products, but in the design and construction of minimum efficiency standards. We believe that learning how to build a good standard is as important to success as knowing how to build a good product. We do look at the technological assessments, economic analyses, and examine market behavior to make sure we understand what kind of program will be in the consumer's interest.

I will briefly discuss seven points that I outline in my testimony and will do so before the agency. Under the base case, consumers are the big winners with total benefits in our view over five times the cost. Three-fifths of those benefits are direct consumer pocketbook benefits because the total cost of

driving goes down.

Second, low-income consumers benefit more than the average consumer because operating costs of vehicles are much more important in their total cost of driving than ownership cost. They buy used vehicles. And those used vehicles, it turns out, get a disproportionate share of the benefits of fuel savings because they are not fully captured in the resale price. They get the benefit of the second half of the life of the vehicle.

And third, let's be clear. Low-income people suffer the most from environmental and pollution harm that results when we drive dirty cars. They suffer the most. They benefit the most from the indirect effects.

Now the National Program is still strong in spite of dramatic reduction in the cost of gasoline for a simple reason, because the minimum efficiency standards were well designed, well written by Congress, a law signed by George Bush, I remind you, and implemented effectively by the Obama administration.

We call these command but not control regulations. I am going to patent that -- command but not control. Because what these regulations do is they address many market imperfections, but they harness the power of capitalism and the market to deliver the benefits at the lowest possible cost. They give producers the freedom to meet the standard in the best way possible to meet

their interests. And just look at the array of options. There are hundreds of options available and consumers get the vehicles they want.

Automakers have done a magnificent job in using their freedoms. They are overcomplying, the costs are coming down, innovation is raging, so the economics of the capitalist automakers are meeting these standards. Of course their political arms come to Capitol Hill and complain. But that is what they always do. They overestimate costs by a factor of three or four. It is not $50 a month, it is closer to 15 and that makes a big difference.

If you look at the agencies, they have listened, identifying a dozen things that people said they should do and they have done it. They considered scenarios, dozens of scenarios to look at the impact, and they have concluded that this is a positive program that is working tremendously.

Finally, you hear a lot about differences between them. Let's be clear, they agree this is the right direction. They are having a healthy debate about cost, but their debate is at a half or a quarter of what the industry says, and history shows the industry always overestimates the cost.

Let me make a final point on the ZEV program which is not greatly implicated here. The chairman bubbled about the fact

that he drives a strong hybrid. Hats off to you, sir. The single largest reason that you had that vehicle available was the California Low Emission Vehicle program. It was California that told the automakers you must find these vehicles. And they stood their ground and we now have hybrids because California came first. It is a perfect example of American federalism at its best.

So before you mess with the leadership role that the clean car states -- and it is the Northeast and the West. There were 30 in the LEV program, there are eight in the ZEV program. They are the fifth largest auto market in the world. Before you squash that leadership and that creativity, think hard about the benefits of having a leader and others to follow. Thank you.

[The prepared statement of Mark Cooper follows:]

**********INSERT 14**********

Mr. Burgess. The chair thanks the gentleman for his testimony. Mr. Bozzella, you are recognized for 5 minutes, please.

STATEMENT OF JOHN BOZZELLA

Mr. Bozzella. Thank you, Chairman Burgess, Ranking Member Schakowsky. Thanks for the opportunity to testify today. I am here on behalf of the Association of Global Automakers. I want to thank you for holding this hearing today and for the opportunity to be here as a representative of international automakers that design, build, and sell cars and light trucks in the United States.

In 2009 and again in 2012, the auto industry, federal government, and the State of California committed to a unified program for fuel economy and greenhouse gas emissions. These goals are very important and we support them. But since this program set standards for vehicles more than a decade into the future, regulators are now beginning a midterm evaluation to assess the assumptions made in 2012 and to reexamine the path toward 2025.

To get to the point, the question on everyone's minds at this hearing is this. Are the standards for 2022 to 2025 that were set almost 5 years ago too high, too low, or just right? The reality, the really only truthful, albeit unsatisfying, answer to that question is it depends. It depends on a number of factors. It depends on what customers want, and by want I am not talking about what is expressed in public opinion surveys.

I am talking about what customers want as expressed by their actual purchases by the votes they cast with their wallets.

Do they want electric vehicles, minivans, sedans, pickups, and how much are they willing or able to pay for what they want? It depends on price of fuel, because the price of gasoline has a direct impact on customer behavior. Gas has been cheap for the last few years and customers have reacted by buying trucks and SUVs which now account for more than half of U.S. vehicle sales. They have reacted by not buying hybrids or electric vehicles, sales of which compared to conventional vehicles have dropped despite the fact that customers have more and better hybrid and electric vehicles to choose from than ever before.

And it depends on a regulatory program that recognizes this reality that we have to find a way to reconcile what the customer wants with our public policy goals. That is because when we are talking about a number, whether it is 54.5, 50.8, the fuel economy numbers that we achieve aren't solely determined by manufacturers or regulators or legislators. They are ultimately determined by the customer.

In my written testimony I have described in greater detail our initial analysis of the Technical Assessment Report, and I don't want to use this time to go over that ground. Instead, I would like to emphasize a few points. First, if every American

went out today and purchased a hybrid or electric vehicle and nothing but hybrids and electric vehicles, meeting or beating a target of 54.5 miles per gallon would be no big deal. But it is not that simple.

Second, achieving our fuel economy and greenhouse gas emissions targets is not just about engineering and ingenuity, it is also about economics and politics. There are more highly efficient vehicles on the market today than ever, but we have two or three, actually, different regulatory schemes that manufacturers have to comply with. That creates inefficiencies and inconsistencies that needlessly waste resources and drive us to high cost and high price solutions.

And third, we ought to be doing everything we can to encourage support and reward innovation. As we look to 2025 and beyond, we need to expand our options and choices. We are lagging woefully in building the infrastructure to support electric vehicles. Efforts to deploy connected vehicles that will be able to reduce congestion and save thousands of lives annually are being delayed by a fight over the spectrum dedicated to safety.

We need to examine new models of mobility that could help us achieve our policy goals. Our concern at Global Automakers is that if we get locked into a discussion about what the numbers should be, a discussion that is, to be kind, a bit stale, we may

miss opportunities that provide more effective and faster paths to our goals.

For our part, we are ready and eager to have these discussions. We need to work together to get this right. Thank you again for the opportunity to testify. I welcome your questions.

[The prepared statement of John Bozzella follows:]

**********INSERT 15**********

Mr. Burgess. The chair thanks the gentleman. And that concludes the testimony, so we will move on to the question and answer portion of the hearing. I recognize myself for 5 minutes for questions.

And Mr. Bainwol and Mr. Bozzella, perhaps I could start with you. We have heard a lot this morning on this panel and it has been a pretty informative, has been a very informative panel. But as you hear the testimony today and the testimony from our previous panel, what are some of the biggest errors in the assumptions that both the Environmental Protection Agency and National Highway Traffic Safety Administration make in doing their technical assessment, the draft Technical Assessment Review?

We will start with you, Mr. Bainwol, and then we will go back to Mr. Bozzella.

Mr. Bainwol. Sure. I will be submitting our TAR response to the agency. I think it is due next Monday, and that will be a more full response. There are several concerns we have got. One is that there was not a sensitivity analysis done. That is one. Two is that in contrast to what Mr. German had to say, we believe that the technology yields are not going to be what EPA and NHTSA suggest they will be, and we think they will be at higher cost. This, at the end of the day is an intellectual

debate and only time will prove the answer, but I will give you a few examples.

The TAR assumes that minivans in 2025 will be as aerodynamic as 2014 Ferraris. As a father of three, I wish I had one of those vans when I was a few years ago. The TAR assumes that the adoption of Atkinson engines will be, I think, at 43 percent in 2025 and we don't think that is practical. The TAR assumes that the low-hanging fruit which allowed us to overcomply, and much of the panel discussion at the beginning was how we are overcomplying and in fact we are, was on the basis of the low-hanging fruit, and we don't believe that it is a given that that low-hanging fruit will regenerate.

So there are a lot of challenges here. And as I closed with my testimony with, the downside risk of being wrong is enormous. And so we have got make sure we do this right. We have got to work together, but the implications are definitely profound.

Mr. Burgess. Thank you.

Mr. Bozzella.

Mr. Bozzella. Yes, Mr. Chairman. I agree with much of what Mitch said. I want to step back a second. I think the agencies worked very hard, and you heard about different models and different baselines and different -- it is a very complex analysis. And so, look, we appreciate the attention they are

giving to it. We are working through the analysis. We also will file comments Monday, but we are going to keep that analysis going. We think that there is more work to be done and we appreciate a fact-based and scientific analysis. We have to make sure. This is the point. This is their reality check to make sure we get it right.

I think there are a couple of areas where we really need to understand the regulators' assumptions. I think the technologies required are an important set of assumptions to probe. There is not a single conventional fueled vehicle in the market today that meets the 2025 standards in any footprint, not a single one. So we have a lot of work to do.

I am bullish on the industry's ingenuity. I have bet my family's security on it for 15 years or more, so I believe in it. But we have a task. Not a single gasoline, not a single conventional vehicle meets those standards today. Strong hybrids do, electric vehicles do, so there is a question. Is it true that we can meet this mostly with conventional powertrains? Obviously we are innovating in both places. Lots of innovation with regard to conventional powertrains and lots of innovations with regard to advanced technologies.

But that is a really important question for the customer, right, because these technologies may require differences in

driver behavior. And so this is, the customer needs to be at the center of this discussion.

Mr. Burgess. Thank you. And just a personal observation, I mean, I do drive a strong hybrid. I got on the waiting list to buy that vehicle in 2003, long before the 2007 energy bill passed. It took awhile to get it so I didn't actually take delivery until 2004.

But my principal reason for buying was because I thought the technology was cool. I had heard about it in a Science Committee hearing in 2003, and I thought what a great idea. So when I put my brake on, it charges the battery that then I can then use to start the car, and when I stop in the drive-in window in Jack in the Box my engine is not running while the clerk fills the order.

So I respect very much what you said about the consumer. And my comments at the beginning, we ignore the consumer at our own peril both as a legislative body, sort of the regulators that were on the panel before, and you of course as the manufacturers and people who are supplying consumers what they want to buy. It is a powerful force and we must not ignore it.

I am going to yield to the gentlelady from Illinois, 5 minutes for questions, please.

Ms. Schakowsky. Thank you, Mr. Chairman.

Dr. Graham, a quick question. Isn't it true in your supplemental testimony that you indicated that your program is funded by the automotive industry?

Mr. Graham. Yes. We have a grant from the Alliance of Automakers.

Ms. Schakowsky. Thank you.

I wanted to ask Mr. German a question. Can you address how allowing for too many credits could undermine the goals of the CAFÉ standards? Put on your microphone, please.

Mr. German. Yes. Let me specifically talk about off-cycle credits just to illustrate, and these are technologies that improve efficiency in the real world that do not appear on the official test cycles. And in theory it is a great idea and it is a concept that ICCT supports.

But the devil is in how you do the calculations and how you award the credits. It is very easy to double count the credits so that some of the credits that occur on the cycle you also award them off-cycle. It is also very difficult to assess the amount of off-cycle credits that actually occur in the real world.

And the reason for this is that we don't have any real-world data on how consumers drive. We have it for isolated areas. EPA has some data from Kansas City. But if you want to give credits, you want to do this over the nation, year-round basis,

data doesn't exist. We are recommending that the agency cooperate with DOT and the manufacturers to do a program specifically to gather this data. This would also allow the off-cycle credits to be standardized. The manufacturers have petitioned for the off-cycle credits to be streamlined. This would be a great way to do it is get a national data set everybody can use and have the same credits for all.

Ms. Schakowsky. Thank you.

I wanted to move now to Mr. Cooper. Several witnesses in this second panel have discussed the impact of differing payback methods, payback periods rather, for fuel economy on consumers' choice of vehicle models and options. Regardless of the length of this period, consumers are indeed getting a payback; isn't that correct?

Mr. Cooper. Sorry. I usually don't need a mike, I speak so loudly. Consumers actually say they accept the 5-year payback given this debate about how long the payback period should be. But the fundamental point is that EPA and NHTSA have both concluded that the payback is less than half the life of the asset, and we like to use that as the absolute bottom line. If there is that much savings it means that people are likely to make money.

Second of all, you have heard that most consumers would love to walk into the auto dealership and get paid back in 3 years.

That is not the world they live in. Ninety percent of them you heard finance them and so it is a cash flow world for the average consumer. And if you look at the cash flow impact even at the EPA and NHTSA standards, you will discover that under most assumptions, 75 percent of those assumptions, they are cash flow positive in the first year. That is because they lower the total cost of driving, and that is what these folks keep ignoring. They ignore it and they make it go away by assuming costs that are through the roof, two to five times as much as EPA and NHTSA.

So now the difference comes down to do you believe their costs or do you believe the agencies' and history which has always shown that the capitalists do a good job? They are not dumb. They don't stand still. They put the least cost things in the vehicles. So these are cash flow positive in the first year. They have a payback period of less than half the life of the vehicle, and that means they are good for consumers. It turns out they are especially good for low-income consumers who are driven by operating costs.

Ms. Schakowsky. I think that is a really important point. Vehicle costs are rising due to many changes in new vehicles not just fuel economy -- enhanced performance, greater safety features, greater comfort and other amenities. While all of these things have costs which can be estimated, only one has the

benefit that is easily converted to a dollar value and directly results in monetary benefits to the person who bought the vehicle and that is fuel economy.

A consumer may be willing to pay for any or all of the other features, but none of them result in a direct payback to the consumer. Have the agencies received comments to indicate public support for strengthening the CAFÉ and greenhouse gas standards in accordance with these rules?

Mr. Cooper. We have been surveying on these, the question of standards for 12 years. Prices are as high as 4.50 and as low as $2. Eighty percent of the respondents to our survey support standards. They understand that it is good for them. They hate the volatility. They hate high prices. But they also hate not knowing whether it is going to be $4 or $2. So we find consistent, strong support for the standards program.

Ms. Schakowsky. Thank you. I yield back.

Mr. Olson. [Presiding.] The gentlelady yields back. The chair calls himself for 5 minutes for questioning. First of all, a warm welcome to all six witnesses and a special warm welcome to a fellow Rice University alumni, Mr. Bainwol. Owls always support Owls. It is good to have all of you here this afternoon.

My first question is for you, Mr. Welch. Your opening statement expresses concerns that these rules will force dealers

into a position where they won't be able to provide the cars and trucks that people want to buy at the prices they can afford. For example, a dealer back home, he has electric cars on his lot. They take up spaces, parking spaces on his lot. They sell for days, maybe weeks. Meanwhile, he is exploding with sales of pickup trucks and SUVs, but these sales are curtailed because he doesn't have the space on his lot because of these electric vehicles.

So my question is do you think that is the exception or the rule going forward, Mr. Welch?

Mr. Welch. I actually think it is the exception. There is a big conception. Dealers actually buy the cars from the manufacturers. They pay for them on the railhead and they put them in their inventory. Dealers are merchants. They stock, sell, and service what their consuming public want to buy, own, and drive. So it is a big misconception that we are going to buy a vehicle and put it in our inventory that isn't going to sell because we are paying flooring on it on a monthly basis.

So the dealers control by and large, and they are required under their franchise agreements to stock representative vehicles for demonstration purposes and what not. But I think what a lot of people miss is that the buying process has changed so dramatically in the past several years.

You know, there is a purchase funnel and, you know, we seem to get sort of a bad rap that we are not pushing electric cars and so on, when the fact of the matter is, is everybody is shopping on the internet these days. The average car shopper spends 13-1/4 hours researching cars. That is for new cars. It is over 15 hours for used cars. A recent Autotrader study indicated that 72 percent of customers that come into the dealership have already decided which vehicle they are going to buy regardless of how good of sales people we, quite frankly, retain on our lot.

So to get back to your question, yes, we will have as many electric vehicles on stock as we anticipate. A dealer typically keeps a 60-day supply is the general rule of the thumb, and whatever their 60-day supply of pickup trucks is going to be different than their 60-day supply of electric vehicles. Other than California, as it was pointed out here, the actual number of pure electric battery vehicles that we sell this year is only 0.4 percent on a national basis.

Mr. Olson. The next question is for Mr. Bozzella and Mr. Bainwol. The industry was promised explicitly a uniform and harmonized set of national standards affecting fuel economy and greenhouse gas emissions not a patchwork of conflicting requirements. Which one did you get?

Mr. Bozzella. Well, there was -- we certainly, it was an

aspirational goal and we have not achieved that aspiration yet.

Mr. Olson. So the patchwork. Mr. Bainwol.

Mr. Bainwol. I will confirm that and if I can take one second to --

Mr. Olson. You bet.

Mr. Bainwol. -- augment something Mr. Cooper said. We too found that 80 percent of the public supports the standards. The next question though is the one that I think is the essential crux of the challenge. We then asked how much would you pay in order to reach those standards? Fifty three percent of the public said under a thousand dollars; 12 percent of the public said over $2,500. The delta is that or more. That is the fundamental math problem.

There may be more value for the consumer, but that is not their perception. And at the end of the day it is the customer who is making the choice, and this shows that the economics are really challenging for them.

Mr. Olson. Yes. So a follow-up to what are some of the differences between EPA credit trading programs and NHTSA's program, and why this difference is a problem? Mr. Bozzella. Mr. Bainwol.

Mr. Bainwol. There are differences in when they kick in, there is differences when they expire, and there are differences

in how they get traded. And it is a problem, because at the end of the day when you comply with two different programs, and in this case you are complying with a more stringent EPA program, you still have additional costs to comply with a program that is not met. And that produces costs that get built into the vehicle and makes it harder for consumers to buy the product.

Mr. Bozzella. Yes. And the only thing I would add to that, Congressman Olson, is that the point of these credits is to reward innovation and to encourage overcompliance. And so to the extent that we take our eyes off the ball and instead of having one streamlined set of rules for good competition and good racing and great results for the customer, we have to spend more time trying to understand how to move things around to comply. And so I think it has an impact on innovation.

Mr. Olson. One final question. I am over time, but who can best fix this problem, either the midterm evaluation or Congress? And who is the best to fix this problem, because it is there it sounds like.

Mr. Bainwol. I think it takes all parties. Congress will have to fix the harmonization piece, then everybody working together will have to make sure that the stringency is consistent with consumer behavior.

Mr. Bozzella. I would agree with that.

Mr. Cooper. Is that an open question for everybody?

Mr. Olson. Yes, Dr. Cooper.

Mr. Cooper. Well, look, you know, Congress could do it. Although I worked on EISA and so forth, the question is who is going to get it done faster and better? And it is not entirely clear that Congress is the best entity. If you look back at the acid rain program, we would have been better off if the agency had been allowed to raise the standard because the industries did such a good job of hitting the target by Congress. So it is debatable who will get it done faster and who will get it done better. And it is perfectly all right for everybody to talk about it, but EPA and NHTSA under the current law are going to have to do something in the time frame of the midterm review. Congress might.

Mr. Olson. So industry first, Congress second is the preferred route.

Mr. Cooper. I said let's have a good debate, but remember, EPA and NHTSA have to do something. And if you can produce a better solution here in that time frame then you will, and EPA can't stop you from doing that.

Mr. Olson. You bet.

Mr. Cooper. And so then that is fine. It is a good debate. But they have to do something because they have to write a new

rule for the next round under the law.

Mr. Olson. Thank you, Dr. Cooper, and I am out of time. I yield to the gentleman from New York, Mr. Tonko, for 5 minutes.

Mr. Tonko. Thank you, Mr. Chair, and gentlemen, welcome. So Mr. Bozzella and Mr. Bainwol, what is the lead time for on designing your vehicles, and for instance when will plans be finalized for model year 2025?

Mr. Bozzella. The lead time for vehicles is years, right. So, you know, this is why this discussion is really important, why we have to make sure that the assumptions built into the Technical Assessment Report about advanced technologies are accurate, because we are looking at technologies now, certainly in the case of electrification that do exist, but in the cases of internal combustion engines that don't necessarily exist in the marketplace yet. So we have a lot of work ahead of us.

Mr. Tonko. Mr. Bainwol.

Mr. Bainwol. Somewhere between 3 and 7 depending on car and truck and what is going on in life, but it is a long product cycle.

Mr. Tonko. Is there a shorter period for the time for a car?

Mr. Bainwol. I believe it is shorter for cars.

Mr. Tonko. Okay. And Mr. German, you mentioned a number

of innovations being developed and deployed. In your opinion, what are the biggest technology advancements that have allowed manufacturers to exceed targets thus far?

Mr. German. The study we focused and the technologies I mentioned were actually technologies that are just starting to hit the market now. And so they are going to provide additional benefits beyond those that were forecasted in the rulemaking 5 years ago.

As far as what is in the market now, certainly the biggest technology has been Mazda's SKYACTIV engine which is 10 to 15 percent more efficient than naturally aspirated engines were previously. And so Mr. Bainwol referred to the 43 percent penetration for Atkinson cycle engines in the TAR, it was zero in the rulemaking because they didn't think naturally aspirated engines could compete. It has completely changed the whole way that EPA and NHTSA are viewing technology.

And I will also point out that it shows that there is a lot of different ways to comply, so manufacturers will go naturally aspirated, some will go turbo-charged, some will choose other routes.

Mr. Cooper. Can I make a point here about this 43 percent? Because I believe, I was very impressed to notice that NHTSA only has it at 18 and they still comply. And that is exactly

the point. Now I need to check that. But, so EPA at 43, NHTSA 18, and under both you comply. That is the flexibility of the act. Subject to check I want to put that in the record.

Mr. Tonko. Okay. Thank you for placing that in the record. Now back to Mr. German. That efficiency effort, the technology gains have been moving at a rather robust pace. Can we expect, do you expect that that pace will continue?

Mr. German. Yes. I don't think there is any question about it, and it is because computers are actually the revolutionary technology. Computer simulations, computer-aided design is allowing things to occur in the development of all technologies that was never possible before. And it is particularly important for lightweight materials, because the simulations are getting to the point where the manufacturer can simultaneously optimize the shape, the size and the material of every part simultaneously. It has never been possible before.

Mr. Tonko. And do you believe that these CAFÉ goals can be met with improvements primarily to the conventional internal combustion engine, or will electric vehicles and hybrids for instance need to become a much bigger part of our fleet mix?

Mr. German. Well, one of the new trends that is happening is lower cost 48-volt hybrid systems. This stays below the 60-volt lethal threshold which has some additional cost savings,

and everything I am seeing from a lot of suppliers says that you can get over half the benefits of a full hybrid at only about a third the cost.

So I do include 48-volt hybrids into conventional technology, but as long as we are willing to stipulate that some of these 48 volts are happening, then yes, with all the other technologies that are coming that are hitting production now that were not anticipated that is all that is going to be needed for the large majority of manufacturers to comply.

Mr. Tonko. And these technologies that you mentioned, will they be available for the manufacturers for their final design time frame?

Mr. German. Yes. I mean all of them I mentioned are in production now. Miller cycle just hit production, e-Boost just hit production. Mazda's engine has been in production for 2 years now. And the other technologies I have talked about will, at least one manufacturer has announced production intent already. So yes, they will be readily available to all manufacturers by 2025.

Mr. Tonko. I thank you. With that Mr. Chair, I yield back.

Mr. Olson. The gentleman's time is expired. The chair calls on the gentlelady from Tennessee, Mrs. Blackburn, for 5 minutes.

Mrs. Blackburn. Thank you, Mr. Chairman, and thank you all for your patience with our hearing today. I know you are fully aware we have got another hearing going on and it is over in the Rayburn Building, so we are having to jump back and forth while our hearing room, our main hearing room is remodeled and updated. But Chairman Upton says, don't worry, the room will still be Michigan green. That that part of the decor is going to change.

I had appreciated the first panel and the opportunity to talk with them just a little bit about harmonization and looking at this program. And Mr. Bainwol, I think I want to come to you on this. When you look at the harmonization gaps between the National Program and, say, California's program, tell me how you think we go about addressing that. How do you fill in those gaps? What is the best way to kind of plug that in?

And then I am going to come to you all in a consumer choice question too, so let me hear from you on that.

Mr. Bainwol. Sure. The harmonization piece with California is really complex. California is able to do what it does under a waiver from EPA, and it is not clear to me whether Congress would choose to adjust that or not and we are not in a position where we are advocating that.

What I would say is that the existence of two different consumption mandates produces some serious challenges. You have

CAFÉ which requires fuel efficiency and carbon reduction, and you have ZEV in California and the other states that requires essentially electrification. And so there is an investment going in both in R&D for electrification and an investment going in to subsidize the moving of the metal for electrified products because they are not selling that well. And that is investment that could go into complying with CAFÉ.

So the existence of two programs absolutely produces challenges and regulatory friction. And I would note that we talk a lot about not needing electrification and hybrids in order to comply with CAFÉ, but we have to produce electrics to comply with ZEV. So that is an academic point. We have to produce those to comply with ZEV, which means those costs are there. Those costs are not in the TAR.

Chairman Olson, you asked about what was missing in the TAR. That is one of the challenges with the TAR, they didn't embrace or accept or talk about the cost of ZEV. That is a serious challenge.

Mrs. Blackburn. Okay. So all of this regulation, how much cost does it add to the price of an average vehicle?

Mr. Bainwol. We don't have a locked in number yet. The TAR has been out obviously since July. We did not get an extension on the period to respond, but we are doing analysis. There is

a range of estimates that go anywhere from, you know, $1,500 to over $6,000, but the critical point is that car prices are being moved not just by CAFÉ and not just by ZEV.

ZEV as I said is $356 per car. It is also being moved by other very well intended and meaningful social objectives in the safety zone and elsewhere, in fuel quality. So the car price question is really critical because we want to make sure as Peter stressed that affordability remains paramount.

Mrs. Blackburn. Yes. In my district in Tennessee with the presence of the auto industry and with the presence of many who have moved from California to Nashville that are connected to the auto industry, one of the things that comes up in our meetings regularly, town hall meetings or just discussions at civic clubs and things, is looking at the CAFÉ standards and looking at what that does to safety of the car, the changing of materials, going for lighter weight materials, and consumer choice comes into play in that.

And I just think about the auto dealers who have to buy a certain amount of product, and yet it may be a product that the consumer does not like or does not want. And I wonder when we are going to hit that threshold on the efficiency issue and what the consumer likes or wants.

And you mentioned consumer choice in your testimony, and

I have got just a couple of seconds. I would like to hear just one little statement from you on it. Yes, go ahead. Mr. Welch.

Mr. Welch. We have literally hundreds of models. And as I mentioned before, under our franchise agreements we stock every line, make and model so that we can have them for demonstration purposes. But the real issue is what do we reorder, okay. And virtually, as I mentioned again before, we are merchants. We are not much different than the hardware store. We have got bins of widgets and if they sell we restock them and what not.

So it is complex. The issue really goes back to the affordability issue. We are so fortunate in our country that we have such a wide array of different options that we provide consumers based on the consumer, and every single sale is different. Every different person has a different budget constraint. They have a different utilitarian need for the vehicle. They have got different commute patterns. And we have got product, it is amazing the product of the manufacturers and we just take it for granted, quite frankly.

But the fact of the matter is as manufacturers are effectively forced under these regulations, even though there is flexibility to add certain types of technologies, and once they make that decision 3 to 7 years in advance they have got to go through the manufacturing process. And, you know, if the

demand and the consumer preferences are different 3 or 4 years from now and it may be based on a safety attribute, it may be based on a fuel economy attribute, but, you know, we are not clairvoyants when it comes to that.

But it is the cost, it is the cost, it is the cost, the affordability and the utility that is offered to the consumer.

Mrs. Blackburn. Thank you. I yield back.

Mr. Olson. The gentlelady's time is expired. The chair calls upon the gentleman from Texas, Mr. Green, for 5 minutes.

Mr. Green. Thank you, Mr. Chairman, and again thank our panel for their patience. Dr. Cooper, according to the 2015 American Community Survey, nearly 60 percent of our district qualifies as a low income. How does this program impact low-income households?

Mr. Cooper. Well, as we have explained in testimony and we explained in 2012, and EPA has followed up on that low income are much less likely to be in the new car market. They are in the used car market. And if you look at their expenditure pattern, their total cost of driving, the biggest component, the much bigger component is operating costs. Higher fuel economy lowers the operating cost so they get the benefit of that.

It turns out when you buy a used car people will hold their cars the life of their loan, 5 years. They sell the car, it is

going to last another 5 years. It is going to save gasoline for another 5 years. Does that savings get reflected in the resale price? Actually, only part of it does. So low-income consumers get a disproportionate share of the second 5 years. Low-income consumers also are the beneficiaries, as I say, of these indirect effects, environmental and public health, so they will be significant beneficiaries of that.

The interesting thing is if you go to year 2022, which is what we are talking about now, almost every used car sold in 2022 will have been subject to the rebooted CAFÉ standard. 10-year life, the average car, they have all been covered by standards, and that means low-income consumers are benefiting from the reboot of the CAFÉ program. This is one of the great myths. Low-income people benefit because they benefit from lower operating costs, and this program is helping them as a class.

Mr. Green. Well, I have to admit, and I have some older cars, but the older your car the more maintenance you have to do. And also if they keep it, then the CAFÉ standards are of a different generation than what may happen on the newer cars.

Mr. Cooper. That is absolutely the case. But on the other hand, those cars were required to be more fuel efficient by the new standard and that is the remarkable thing by 2022.

Mr. Green. In your testimony you point out that the industry

has found lower-cost ways of complying with the standards than originally thought. What are some of the ways that this was accomplished?

Mr. Cooper. Well, the most obvious one is the Atkinson engine. It wasn't even considered. The second of all, what happens is that when people are given a 10-year time frame they ain't dumb, they took a look at it and say what am I best at; what else will I be changing? And so what the regulators thought the cost would be is always too high. What the industry political arms said the cost would be is way too high. We have got dozens of studies of that.

And so the natural process of capitalist markets, they bring the costs down, they learn the learning curve is very, very steep in the beginning, and so you can find specific technologies that came along like this aspirated engine. You can find the general process. But this has happened dozens and dozens of times over the last 3 decades as we have dealt with the issue of improving fuel economy.

Mr. Green. Mr. German, do you -- the initial costs for estimates complying like what Mr. Cooper said is actually much lower than the manufacturers or even the agencies. In regards to this program have compliance costs been overstated, and what is the primary factor in overstating this compliance?

Mr. German. Yes. No, it is just innovation. I have only talked in my testimony about the major improvements you can put a name to, but in the series of reports that we are doing in cooperation with suppliers we have all kinds of small things that have happened that were not anticipated. Variable geometry turbo-charger from a diesel engine which is highly efficient, it doesn't work on a conventional gasoline turbo-charge, but it does if you add Miller cycle.

So there is all kinds of little secondary benefits that the suppliers and I am sure the manufacturers as well are figuring out that taking little steps to improve efficiency and reduce cost and the cumulative effect of these things is quite large.

Mr. Green. Okay. And how should we project for the new technologies given the rate of new development and adoption? I mean do we have a crystal ball?

Mr. German. Yes. I mean that is the single biggest problem with innovation. You can't project it. And that is why what I really try to push is the concept that the least you can do is to use the latest data possible and get as close you can, because if you are using older data you are guaranteed to be wrong. You are guaranteed to be missing innovation.

Mr. Green. Okay. Thank you, Mr. Chairman. I yield back.

Mr. Olson. The gentleman yields back. The chair now calls

upon the gentleman from the Commonwealth of Virginia, Mr. Griffith, for 5 minutes.

Mr. Griffith. Thank you very much, Mr. Chairman. I guess I am going to look first to Mr. Welch and Mr. Bainwol. Your responses, do you think the industry can get me a cheap car for my five-member family? And as you can tell by looking at me I am not small and my children probably aren't going to be small either. Can you get me a car that is 22-$23,000 that I can fit them all into that is going to have all these technological advantages and get it to me at 23-$24,000?

Mr. Welch. For a new car, stripped models which most people want more accoutrements on, but --

Mr. Griffith. Well, I am a stripped model guy, but okay.

Mr. Welch. Well, that is fine. But, you know, our least expensive car I believe that we have on the lots right now is the Nissan Versa that is just under $13,000, and of course they go all the way up.

Mr. Griffith. I understand that. But can I get all five of those people in there comfortably? I don't think I can.

Mr. Welch. No.

Mr. Griffith. I have spent more hours, and somebody gave the statistic people spending 13 hours on the internet. I have already spent more than that anticipating when I trade in my

Volkswagen diesel and the deal gets approved.

But I do think both of you made the point that price makes a difference, and it does make a difference. Because I looked any number of times when I was driving my older vehicle, the one that I traded in for the Volkswagen diesel, and I drove that for 376,000 miles before the axle broke and my wife said you have got to get rid it. I am tired of no hubcaps and the windows being held up with duct tape. So I am that cheapskate, but the price does matter.

And I noticed, Mr. Welch, in your testimony you said even on a monthly basis, because I think it was Dr. Cooper who testified it is about the cost of maintaining the vehicle and so forth which includes the loan value or the loan cost that even $20 to $30 that your dealers would say that makes a difference on what car they are going to buy, or in the case of somebody like me whether or not I buy.

And then Mr. Bainwol, you indicated -- and you can correct me and jump in anywhere on this -- but you indicated that TAR was going to add anywhere, in an average in talking with the gentlelady from Tennessee, 1,500 to 6,000. So I quickly pulled out the internet loan calculator and figured 1,500 at 3 percent, which I think would be fairly reasonable in the middle if there is not some special deal, and that hits your number, 26. It comes

back at 2,695 and that is right smack dab in the middle of the number where people start deciding they are going to get a different car or not buy at all.

Am I accurate in those assessments that I have made that some people are going to walk away completely from the new car and some people are going to downsize?

Mr. Bainwol. I would say that the fundamental point you are making is that you have to do a whole-car cost analysis. And we have a tendency in this town to look at policy from a silo, so today we are talking about CAFÉ and we have kind of brought in ZEV because that introduces more cost and it is related.

But we also talk about things like V to V, and an issue that Congressman Schakowsky talked about, the rear visibility. There is lots of things that go into the price of a car that are great technologies that serve important social purposes, but at the end of the day they cost money. And when you load them all up and you do the whole-car cost analysis you are creating a world in which it becomes harder and harder to purchase a new car.

And with all due respect to my friends on the panel, that disproportionately hurts and locks out of new cars low-income Americans who then do not get the benefits of the safety technologies that have been introduced in the last 5 to 10 years.

Mr. Griffith. Well, and let's face it, and I am going to

ask you a question at the end of this, I could afford the more expensive car. But if it is so much more expensive that I walk away from the market, I am never selling the used car that Dr. Cooper wants me to sell to some low-income person at the end of 5 years or 6 years or 8 years or even if I were able and could in my conscience spend that much money on a car and buy it, I am likely to drive it longer than the 5-year life span because I am getting good service or good mileage out of it and it is never going to be available, at least not mine. I understand I may not be typical, but it is never going to be available for the low-income person until the axle breaks and it is all falling apart and it is time to take it to the graveyard. I yield back.

Mr. Olson. The gentleman yields back. And that is all for the members and their questions. On behalf of the Commerce, Manufacturing, and Trade and Energy and Power Subcommittees and this committee, thank you, thank you, thank you to our witnesses.

I would like to ask unanimous consent to enter into the record a letter from the American Chemistry Council about this hearing. Without objection, so ordered.

[The information follows:]

**********COMMITTEE INSERT 16**********

Mr. Olson. I remind all members you have 5, you have 10 legislative days for questions for the record. Without objection, this hearing is adjourned.

[Whereupon, at 1:23 p.m., the Subcommittee was adjourned.]