SAN FRANCISCO PUBLIC HEARING

EPA/NHTSA PROPOSED

STANDARDS FOR GREENHOUSE GASES AND FUEL ECONOMY

FOR LIGHT-DUTY VEHICLES IN MODEL YEARS 2017-2025

JANUARY 24, 2012

SAN FRANCISCO, CALIFORNIA

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TRANSCRIPT OF THE SAN FRANCISCO PUBLIC HEARING, EPA/NHTSA PROPOSAL, STANDARDS FOR GREENHOUSE GASES AND FUEL ECONOMY HEARING, held at the Hyatt at Fisherman's Wharf, 555 North Point Street, San Francisco, California, commencing at 10:04 A.M., on January 24, 2012, heard before the Government Panel of EPA/NHTSA, reported by Deborah E. Taggart, Shorthand Reporter, CSR No. 5942, for the State of California and Cheri Winter, CSR No. 12792 for the State of California.

EPA PANEL MEMBERS:

Margo Oge

Chet France

Robin Moran

NHTSA PANEL MEMBERS

Ron Medford

Jim Tamm

Steve Wood

SAN FRANCISCO, CALIFORNIA; TUESDAY, JANUARY 24, 2012.

10:04 A.M.- 6:42 P.M.

P R O C E E D I N G S

MS. OGE: Good morning. I'd like to welcome you to this public hearing today here in San Francisco -- the beautiful city of San Francisco. My name is Margo Oge. I'm the director of the Office of Transportation and Air Quality with the U.S. Environmental Protection Agency. With me on my right is my colleague Ron Medford from NHTSA. Ron and I will be the presiding officers for today's hearing.

Now, we have over 140 individuals and representatives of various organizations that have signed up to speak today. And I want to thank each one of you for taking the time to participate in this very important process.

Today we will be hearing testimony on a proposal to establish greenhouse gas emissions and fuel economy standards for light-duty vehicles for model years 2017 through 2025. The proposal standards that we issued last November would achieve 163 grams per mile of CO2 equivalent. Vehicles were to meet this standard, all using fuel-economy improvements. The

163 grams per mile would be equivalent to 54.5 miles per gallon in 2025 time frame.

This program's projected to save about 4 billion barrels of oil in 2025 and 2 billion metric tons of greenhouse gas emissions. This is over the lifetime of vehicles sold in the years 2017 through 2025.

The higher cost of new vehicle technology will add on an average $2,000 for the consumer that buys a vehicle in 2025. However, this consumer will save an average of up to $6,600 in fuel savings for a net life saving of $4,400. And for this analysis, we assume that gasoline prices will be approximately the same level in 2025 as they are today.

The proposal builds on the success of the first phase of the national program for model years 2012 through 2016. Those standards were finalized in April 2010. Continuing the national program makes sure that all manufacturers can continue building a single fleet of vehicles that will satisfy requirements of both federal agencies, NHTSA and EPA, as well as the California program.

President Obama announced support for continuing the national program last July, and NHTSA and EPA issued a Notice of Intent last August outlining

basically our plans for the proposal that we're seeking comments today.

The State of California and 13 auto manufacturers representing over 90 percent of the U.S. vehicle sales provided letters of support for the program. The United Auto Workers and many, many nongovernmental organizations also supported our announcement and proposal last November.

The program covers a wide range of light-duty vehicles including cars, light-duty pickup trucks, SUVs and minivans. The agencies have designed the proposed standards to preserve consumer choice. That is, the proposed standards will not affect consumers' opportunity to purchase the size of the vehicle with the performance, utility and safety features that meet their needs. This is because the standards are structured so as not to create incentives to manufacturers to produce vehicles of any particular size. So, for example, there's not an incentive, based on these proposed standards, to downsize vehicles.

Today's hearing allows interested parties to provide comments on the proposal in person. As I mentioned earlier, this is our third public hearing. The first public hearing was in Detroit, the second in Philadelphia last week, and this is the third public

hearing in San Francisco. In addition, there is a written comment period that will remain open until February 13th. The comment period was originally scheduled to end on January 30th, but was extended to provide some additional time for the public to comment. The agencies expect to take final action on this proposal in late summer of this year.

And I would like to introduce my colleagues representing EPA with me. On our panel today is Chet France. He's the Director of the Assessment and Standards Division. And Robin Moran, she's the senior advisor to Chet.

At this time, I'd like to turn it over to my colleague from NHTSA, Ron Medford who's going to make a statement and introduce his team.

MR. MEDFORD: Thank you, Margo. Good morning everyone.

As Margo indicated, my name is Ron Medford, the Deputy administrator for the National Highway Traffic Safety Administration, and on behalf of NHTSA and the Department of Transportation I'd like to thank you for taking your time today out of your busy schedules to come here today and express your views on the proposed fuel economy and greenhouse gas emissions regulations.

First, I'd like to introduce the panel members from NHTSA who are sitting with me. On the right is Jim Tamm, who is the Chief of the Fuel Economy Division, and Steve Wood, who is Assistant Chief counsel.

Today's hearing provides an opportunity for the public to present oral comments regarding the agency's proposed 2017 light-duty vehicle greenhouse gas and fuel economy standards.

On November 16th, the EPA and NHTSA issued joint agency documents relating to the -- related to the proposed rulemaking. They included a preamble of two preliminary regulatory impact analysis documents, one from each agency and a Technical Support Document. These documents described the proposed regulations and the supporting information and analysis related to the proposal.

In addition, NHTSA issued a Draft Environmental Impact Statement for the proposed fuel economy regulations. The draft EIS compares the environmental impacts of the proposed fuel economy regulations with those of the regulatory alternatives.

Today's hearing provides opportunity for the public to comment on both the NPR and the draft EIS. The written document period -- written comment period,

as Margo indicated, for the EIS is January 13th, and the written comment notice period closes for the rulemaking February 13 -- January 31st. Excuse me.

Today's hearing is scheduled to run until about 7:00 p.m., but we will be here as long as it takes to allow everyone the opportunity to provide their views.

We will be using panels to speed up the process. The list of preregistered panel members and group order is provided with the agenda at the reception table. We request that each person keep their testimony to five minutes or less, and we have a timer, which will sound like a doorbell when it goes off to let you know when your time expires.

If anyone here wishing to testify has not already signed up, please do so at the reception table. Whether or not you testify, we would like everyone attending today to please sign in. We plan to go straight through the panels, except we may call for one or two breaks during the day.

After today, the official record of the hearing will be kept open for 30 days for any speaker wishing to comment, submit rebuttals or make any corrections to the remarks for the record.

If you would like a transcript of today's

proceedings, you should make arrangements with either the court reporter or the desk -- reception desk. We'll also make the transcripts available on a website in the public docket for rulemaking.

This hearing will be conducted informally and formal rules of evidence will not apply. Presiding officers, however, are authorized to strike the statements from the record which are deemed irrelevant or needlessly repetitious and enforce reasonable limits on the duration of statements of any witness.

Before we bring up the first panel, I want to ask that each panelist please state his or her name and affiliation, speak as slowly and as clearly as you can so our court reporter can record these proceedings accurately.

If your comments are directed to NHTSA's draft EIS, we request that you mention that before you begin your comments. There's no need to identify your comments if they are directed towards the proposal. We will assume that all comments are directed to the NPRM unless you tell us otherwise.

When the witnesses on the panel have finished their presentation, the government panel will have the opportunity to ask questions related to the testimony. Witnesses are reminded that any false statements or

false responses to questions may be a violation of law.

So I think we're ready to call up the first panel. And we will ask the first panel to come up and get started. And if you don't mind, please write your name on the blank cards and put it in front of you so it will help the court reporter identify who's speaking.

The first panel, Mr. Cackette, Mr. Brune, Mr. O'Brien, Mr. Modlin, Mr. Lloyd, Mr. Greene, Busch, Professor Dempsey and Mr. Barrett.

Mr. Cackette, as soon as you're ready, you can begin.

TESTIMONY BY TOM CACKETTE

MR. CACKETTE: Ron, Margo, thank you very much for the opportunity to testify here today. As you know, at the President's request -- do I need the mic? I guess I do.

As you know, at the President's request, CARB participated in the development of the greenhouse gas standards that you are considering today. We shared our knowledge developing the nation's first greenhouse gas standards which were adopted back in 2004 and became effective in California and 10 other states with the 2009 models. We contributed to new studies that

form some of the technical underpinnings of the EPA proposal and co-authored with the federal agencies the Technical Assessment Report that was issued in late 2010. We continue to work with the federal agencies to ensure that the proposed EPA greenhouse gas standards could be used as an alternative to California's standards and result in a unified set of regulations that would allow vehicle manufacturers to produce a single vehicle model that would meet state and federal greenhouse gases and federal fuel economy standards. We believe your proposal is consistent with these objectives.

Two days from now, CARB will hold a hearing in Los Angeles to consider approving its Advanced Clean Car regulation. Staff issued this proposal in December of 2011. This proposal includes new greenhouse gas standards that benefited from our cooperative efforts over the past two years.

Our proposed greenhouse gas standards are nearly identical to what you are proposing. Our analysis of the costs and benefits draws from the many hours of discussion we had with your staff on the best information and the latest analytical techniques to use in our respective regulatory documents.

As you know, the results of our efforts

reveal the enormous benefits of the proposed greenhouse gas standards. Greenhouse gas emissions of 2025 models will be a third lower than those of 2016. Fuel savings will be so substantial that the total cost of owning and operating a low greenhouse gas vehicle will be less than it is today, despite the higher initial cost of the vehicle. And the fuel savings means money that would have gone overseas to produce petroleum will stay in our country where it will be spent and create new jobs for Americans. This is truly a win-win proposal that will benefit America.

As part of our effort to ensure a national program, CARB has committed to accept compliance with the EPA greenhouse gas standards as compliance with our state standards. For this to become a reality, EPA needs to finalize its standards largely as currently proposed. Once this occurs, hopefully by this summer, CARB will hold another hearing to consider a regulatory provision to formalize our commitment allowing compliance with EPA standards to fully satisfy the states' regulation. This is the same process and sequence of events we followed to allow EPA's compliance with 2012 to 2016 greenhouse gas standards to satisfy CARB standards for those years. Our intent is clear from our proposal and it will be memorialized

in a formal resolution that would go before our board later this week.

We remain committed to work with you to ensure the successful implementation of the greenhouse gas standards. This includes new studies, reviews, and the formal midterm review that's included in your proposal.

In addition to the greenhouse gas standards, CARB's Advanced Clean Car proposal includes new exhaust and evaporative emission standards for hydrocarbons, oxides and nitrogen and particulate matter starting with 2015 models. These standards will reduce the said emissions by roughly 75 percent by the 2025 models with similar reductions in particulate conditions.

These reductions will help our urban areas meet the more stringent health-based ambient air quality standards that are forthcoming. And the costs of achieving these standards is low and the technology is readily available. We have tailored the implementation schedule of these standards to be compatible with the gradual tightening of greenhouse gas standards, so that the greenhouse gas, smog-forming and soot-emission reductions can be addressed in an efficient manner by the development engineers of the car companies.

We know that EPA is nearing completion of its Tier 3 proposal to address these same pollutants from passenger vehicles. We know this because we shared with you our assessment of the feasible standards and the implementation schedule, and we've worked together to reach a common understanding of the many testing and compliance details.

We urge you to propose and finalize this Tier 3 regulation as soon as possible. It will benefit the vehicle manufacturers in that they'll be able to build one car that meets California and EPA standards. And it will benefit California and our partner states by assuring that federally certified new cars that subsequently operate in our states will be as clean as those sold here and purchased by our citizens.

Our Advanced Clean Car package also includes a proposal to strengthen the ZEV mandate. Ten other states and the District of Columbia have adopted this program which collectively account for a little more than a quarter of all sales of passenger vehicles in the nation. By 2025 we are proposing that 15 percent of all passenger vehicles sold in California and its partner states be ZEVs, which include battery, hybrid and fuel cell vehicles.

Do you want me to stop or do I --

MR. MEDFORD: Yeah, you have a second to wrap up, if you have a few more.

MR. CACKETTE: We point this out because the extremely low or nonexistent greenhouse gas emissions of these zero-emission vehicles will count towards compliance with the national standards. As you know, the analysis of the proposed federal standards indicates a significant number of ZEVs will not be needed to achieve compliance with the federal rules. Thus, placement of ZEVs in California and its partner states to meet the California ZEV mandate provides the emission reduction credits that reduce the reductions that must be achieved from the remainder of a vehicle manufacturer's fleet. This, of course, is only a side benefit of strengthening the ZEV mandate whose main objective is to push technology onto a sustainable pathway that will take us to an 80 percent reduction in greenhouse gas emissions by 2050.

So I want to thank you, again, for the opportunity to testify today. And also for Ron and Margo, it's been a great honor to work with you over the past couple of years to help develop the standards you're proposing today.

MR. MEDFORD: Thank you, Tom.

Mr. Brune.

TESTIMONY BY MICHAEL BRUNE

MR. BRUNE: Good morning, everyone. To our panel members, welcome to California.

I'm Michael Brune, executive director for the Sierra Club. The Sierra Club is our nation's largest grassroots environmental organization. We were founded by John Muir nearly 120 years ago to both defend Yosemite National Park and expand its protection. Today, about 120 years later, we find that Yosemite National Park, throughout the Sierra Nevada range and almost every ecosystem in our country, is imperiled by climate change. That's just one reason why these standards are so important.

I want to thank EPA and NHTSA for the opportunity to testify today. I also appreciate the incredible amount of work that you all have done, the time that you put in with the California Air Resources Board to make these historic standards possible. Thank you.

I'm here today because our dangerous addiction to oil is threatening our quality of life by draining our wallets at the gas pump, polluting our air and devastating our climate. Every day we're sending nearly a billion dollars overseas for foreign oil, wasting money that would be better spent investing in

American innovation and investment in growing industries like clean energy. Our oil addiction fuels the climate disruption that is increasing the number and intensity of severe droughts and devastating storms. It also puts our troops at risk around the world and our families' health and security at risk here at home. That's why these new fuel-efficiency and carbon pollution standards for new cars and light trucks are such a big deal.

President Obama's proposal to double the efficiency of Americas's cars and light trucks is the single biggest step that we've ever taken to move America beyond oil. It's the single biggest thing that we've ever done to move our country beyond oil. In 2025, American families will get to buy cars and light trucks that average 54.5 mpg and emit no more than 163 grams per mile of carbon pollution. This is a huge win for all Americans.

Just to put this in perspective, the average family buying a new car in 2025 will save more than $3,500 at the pump. That's after paying for all the new technologies embedded in those vehicles. In 2030, Americans will use 1.5 million fewer -- 1.5 million fewer barrels of oil per day, the same amount of oil that we imported from Saudi Arabia and Iraq in 2010.

At the same time, we will cut enough carbon pollution that's the equivalent of 72 coal-fired power plants every year.

The shift that we've seen over the past few years in the auto industry is also worthy of our recognition. The United Auto Workers, which is the backbone of the American manufacturing industry, strongly support these standards, as do most major auto makers. The industry is already enjoying a rebound with new jobs in Michigan across the Midwest. By 2030, these standards will help create nearly half a million jobs around the country. These are good, union-paying jobs.

Here in California, we've been paving the way for cleaner cars for nearly a decade. I'm proud to live in a state that's led the country in cutting pollution from cars from pollution that compromises our health and/or right to breathe healthy air to the pollution that threatens our climate. It was California that first pioneered the first ever tailpipe standards for greenhouse gases, putting its authority in the Clean Air Act to work. It's taken years of litigation, more than a dozen states to join in on an effort before we finally created the momentum to create national standards, standards that were stuck in the

'70s for far too long.

For more than 20 years, the Sierra Club and its members have been pushing for stronger fuel-efficiency standards to help move our country beyond oil. We have already had more than a hundred Sierra Club members testify at your hearings in Detroit and in Philly. And you'll hear from more Sierra Club members today. We've had 20,000 of our members send in their comments so far, and we will continue to work to do whatever we can to make sure that Americans have more and better transportation choices and make walking and biking safe, and increase our access to transit.

Last thing I want to say is that, as the father of two young children, I'm relieved to know that the cars that they drive in the years to come will use less oil, produce less greenhouse gas emissions and will make our air and water safe. These rules are strong. But let's be clear that we need to make rules that are even stronger. We need to do all that we can. We need to lean into the challenge of moving our country beyond oil. This is a good start, but we shouldn't finish here. The reason, as everybody in this room knows, is that dirty air, it pollutes our water, it pollutes our air, it pollutes our atmosphere. And as we've seen over the last couple of election cycles, dirty oil and

big-oil money pollutes our politics. I urge you to finalize these standards, to strengthen these standards whenever possible, and to do all that you can do make sure we're breaking our oil addiction.

Thank you for the opportunity to testify, and thank you for all your hard work.

MR. MEDFORD: Thank you. Great timing, Mr. O'Brien.

TESTIMONY BY MICHAEL O'BRIEN

MR. O'BRIEN: Thank you, Margo and Ron, especially for your agencies' work in terms of clean air and greenhouse gas reduction. We appreciate that very much.

My name is Michael O'Brien, and I'm the vice president of product and corporate planning for Hyundai Motor of America. It's an honor to be here to provide our perspective on this very important rulemaking. We appreciate the significant effort on the part of the agencies and the difficult task of developing peaceable and harmonized national greenhouse gas and CAFE standards.

Before discussing the proposal, I'd like to take a few moments to talk about Hyundai's thoughts on fuel efficiency and our efforts and successes in this

area.

Hyundai is one of the industry's most fuel-efficient automakers. We're on track this year to surpass the government industry fuel economy target of 35.5 mpg for the 2016 model year. Currently, four Hyundai models, the Sonata hybrid, Elantra, Veloster and Accent, achieve EPA highway fuel economy ratings of 40 mpg. We are the only auto maker who provides fleet-wide fuel economy performance in our release of monthly sales figures, and these 40 mpg models accounted for over one-third of our U.S. sales at 2011. That's over 218,000 vehicles sold with 40 mpg or better, more than other manufacturers that have a full range of hybrid vehicles.

In 2010, we publicly pledged to reach our 50 mpg plus for our fleet by 2025, and in our discussions with the agencies on this rulemaking, we have consistently supported a standard in excess of 50 mpg. We continue to support the agencies on this rulemaking. We believe that it's the right thing to do for the environment and for the nation's energy security.

Hyundai agrees with many of the flexibilities and credits provided in the proposal. We support the credit and banking provisions and continued application

of off-cycle credits for technologies whose benefits cannot be accounted for on the city and highway cycles. Hyundai believes off-cycle technology is an area that is ripe for innovation and can provide important gains in real-world fuel economy. Now that the agencies have quantified the value of various off-cycle technologies in a menu format, Hyundai asks that EPA and NHTSA allow the menu technologies to be used in the 2012 to 2016 model years as well. However, we recommend that the agencies eliminate the 10-gram cap on the menu technologies. We understand that EPA plans the caps because the menu technology credits are based on limited data. However, Hyundai agrees with the agency that the credits offered are conservative and thus, the cap is not necessary.

Hyundai also appreciates that there are a number of flexibilities in the proposal that address OEMs' different strategies for creating a fuel efficient fleet. For example, some OEMs are focusing resources on electric vehicles, and they are receiving credit multipliers for expanding that technology. Others are improving fuel efficiency of cargo-carrying larger pickup trucks and the agency is providing incentives to improve those technologies. Some OEMs plan to focus on fuel efficiency leadership of gasoline vehicles, and

CARB's proposing to allow those OEMs to offset part of the zero emission vehicle mandates for a limited time by overcomplying with these challenging greenhouse gas and CAFE standards. We appreciate the government's recognition of these varying OEM strategies by providing a variety of incentives to maximize performance in each area.

Finally, Hyundai appreciates a substantial lead time for these regulations which will provide stability for long-term product planning. Hyundai supports the midterm evaluation because it provides an opportunity to ensure that details of the program are appropriate. Although, we believe the proposed requirements are feasible, Hyundai recognizes that it is difficult to perfectly predict out to the 2025 time frame the technologies, the costs and consumer acceptance of these technologies that will be necessary. The midterm review will help ensure the requirements are sound closer to the time of the implementation.

This concludes my remarks. We will also be submitting written comments to the docket on an additional aspect of the proposal. Thank you for the opportunity to comment today.

MR. MEDFORD: Thank you very much.

Mr. Modlin.

TESTIMONY BY REGINALD MODLIN

MR. MODLIN: Good morning. I'm Reginald Modlin, Chrysler's Director of Regulatory Affairs. I appreciate the opportunity to comment today on EPA and NHTSA's proposed national greenhouse gas and fuel economy rules.

Chrysler recognizes the benefit for the country of continuing the national program to address fuel economy and greenhouse gases. EPA and NHTSA began this program in 2009 with standards for model years 2012 through '16, and now the agencies are continuing for model years 2017 through '25.

The challenge of meeting the proposed standards must not be underestimated. We believe it's important to observe that reaching the projected overall average of 163 grams per mile of carbon dioxide by model year 2025 will have to be achieved within 13 years or roughly two product cycles.

We at Chrysler appreciate the opportunity to offer brief comments concerning the proposed national greenhouse gas and fuel economy program. Chrysler supports the goals of the program. Sergio Marchionne, our CEO, is also the CEO of Fiat S.p.A., which is the industry's fuel economy leader in Europe. He understands and endorses these commitments and is

determined to pursue the product actions necessary for Chrysler to meet these standards.

Chrysler strongly supports a single, harmonized national greenhouse gas and fuel economy performance standard that allows manufacturers to offer what customers want to buy and at a price they can afford. Chrysler will support the final rules if they reflect the commitments and foundational principles of the foundation agreement.

The foundation principles are: (1) strong performance requirements, (2) a midterm review to assess customer acceptance, and (3) a broad use of incentives to encourage technology innovations and early integration into production vehicles.

We believe the midterm review is critical to determining whether the customer's buying, and will continue to buy the technology packages needed to comply with the standards year over year. Efforts to search for parameters that measure potential customer acceptance must not lose sight of the most important question: Are they buying the product? Measuring whether consumers will buy what we offer next year is already challenging. Speculating as far as 13 years in the future holds significant uncertainty and risk. A midterm assessment of the underlying rulemaking

assumptions provides a critical and equitable mechanism to adjust standards for future consumer and technology uncertainties and is a primary reason Chrysler supports this program.

I'd like to offer comments on a couple of other provisions of the rule. First, Chrysler agrees with setting the truck performance requirements based on the underlying physics of these types of vehicles. We believe the proposed 2017 through 2025 standards support this premise and correct the deficiencies in the 2016 model year rule, which overlooked these factors. The 2017 to 2025 truck standards are challenging while respecting the utility of these vehicles and their importance to the nation's economy.

Secondly, Chrysler supports the additional detail proposed for catching off-cycle fuel economy and greenhouse gas improvements. The agency's built on this facet of the 2012 through '16 model year regulation that recognizes improvements in fuel economy and greenhouse gases that are not captured in laboratory tests but do have real-world reductions.

And finally, there are references to minimum penetration levels in various aspects of the proposed rule. These thresholds are unnecessary and will serve as potential disincentives to investing in new

technologies. We propose that all actions be recognized, as they have been historically, on a per-vehicle-so-equipped basis. This is an equitable approach where every vehicle built with the required technology for our customers is acknowledged.

In conclusion, I reiterate Chrysler's support for a single, harmonized national standard for fuel economy and greenhouse gas emissions. We look forward to continuing to work with the agencies throughout the rulemaking process and after the final rule is published later this year.

Thank you for your attention.

MR. MEDFORD: You thank.

Mr. Lloyd.

TESTIMONY BY ALAN LLOYD

MR. LLOYD: Good morning. It's a pleasure to address EPA and NHTSA this morning. My name is Alan Lloyd, and I'm president of International Council of Clean Transportation. Previously, I was secretary of California EPA and also chairman of the Air Resources Board. And I'm happy to present comments on the proposed standards on behalf of ICCT, supporting those provided by John German last week. We will also be providing written comments.

My testimony will focus on two areas: Historical context and cost estimates.

My last act as Chairman of the California Resources Board was to preside over the 2004 board and meeting to adopt the regulations required by AB 1493. This historic regulation and legislation was made possible by the vision, fortitude and commitment to the environment by Senator Fran Pavley, together with the support of Governor Davis and Governor Schwarzenegger.

At the national level, you, working together with the California Air Resources Board and the automobile manufacturers, then passed the rule requiring fleet-wide reductions in greenhouse gas emissions for the 2012 to 2016 time period. This was an excellent example of the provisions of the Clean Air Act in operation. The regulation to control the greenhouse gases from vehicles was passed in California, adopted by the Section 177 states, and subsequently at the national level.

This cooperation shows that the California/EPA relationship working exactly as planned in the California -- in the Clean Air Act, and this is continuing today with the proposed rule for the 2017 to 2025 time period.

I want to congratulate you and the staff of

EPA, as well as the California Resources Board, NHTSA, for building on the earlier rule and aggressively setting the stage so that the U.S. can not only catch up but surpass countries in the world in the desire to improve fuel economy, reduce greenhouse gases and reduce dependence on fossil fuels.

I also applaud federal policy in identifying the positive role of electric vehicles as critical technology to address urban and greenhouse gas pollution, fuel economy and reduced dependence on fossil fuels. Electric drive technologies are inherently clean with zero tailpipe emissions, and coupled with renewables, they are capable of zero well-to-wheel emissions and will be necessary to reach 2050 greenhouse gas targets of over 80 percent.

On cost, last week, John German included some comments, and I would like to reiterate some of those and expand on a few.

The ICCT agrees that the best way to derive direct technology to cost estimate is to conduct real-world tear-down studies. Not only is this likely to be more accurate than supplier and manufacturer estimates, but the results are public, greatly increasing the transparency of the cost information. The ICCT also agrees with EPA's assessment of indirect

cost that specifically addresses the factors that increase the retail price compared to the direct costs and generally -- and the general approach of assigning technologies to several complexity classes for determining the indirect cost multipliers. The use of generic retail price equivalency markup to cover a wide range of factors that are not consistent over different technologies often results in overestimating those costs. And we would recommend the Agency to scrap the sensitivity analysis conducted using the RPE markups.

In our work, as well as the work conducted by the EPA and CARB, the issue of light weighting of vehicles has proven to be one of the most exciting and fertile areas for improving fuel economy without incurring exorbitant costs or jeopardizing safety. As Mr. German stated, previous lightweight material cost studies did not assess part interactions and secondary weight reductions.

Studies in progress by Lotus and FEV are using highly sophisticated simulation models to optimize part materials and design. The results of these studies will be far more accurate for future designs and must be used to assess weight reduction for the final rule. We believe that these studies will be available for inclusion in the final rule. They are

likely to show costs of lightweighting to be lower than envisioned in the proposed NPRM as well as in the final 2012 to '16 rule.

Another area where costs included in the draft are too high are those for the parallel or P2 hybrid. The P2 systems evaluated by FEV for EPA assumed no reduction in IC engine size, no reduction in battery size, and did not account for the cost savings due to removing automatic transmission torque converter. The ICCT is presently engaged in an exercise to evaluate the cost of P2 systems with these issues in mind, and we expect, at least, that the updated P2 costs will be lower than the agency estimates. These updated costs should be included in the final rulemaking.

These are but two examples where we feel that the costs of the proposal are likely to be too high. And we feel fully confident that the technology benefits representative of another 13 years of development will result in costs much lower than $2,000. From my experience as chairman of the California Air Resources Board, actual rule implementation costs seen by the consumer are much less than those predicted by the regulated community when standards are adopted. This trend continued with my testimony during the Board hearing for AB 1493, during which the industry predicted

$3,000 increase per vehicle. Actual costs, as you have found in the 2012 to 2016 rulemaking, were lower than $950.

In summary, I want to applaud you and the staff, in addition to California Air Resources Board, NHTSA, and the automobile manufacturers, for setting these national standards and laying out a clear path for the future. Through your efforts and the strong administration support, you have created a dynamic in which all parties are working together, and excitement, and jobs are being created again. Finalizations of this proposed rule would catapult the U.S. to a global leadership role in addressing fuel economy, climate change and reduction in fossil fuels. We applaud your great efforts. I know personally, this is extremely taxing and stressful work. And as Thomas Friedman said, "This is a big deal."

MR. MEDFORD: Thank you.

Mr. Greene.

TESTIMONY BY LARRY GREENE

MR. GREENE: Good morning. My name is Larry Greene, and I'm the co-chair of the Global Warming Committee of NACAA, the National Association of Clean Air Agencies. NACAA is an association of air pollution

control agencies in 50 states and territories and over 165 metropolitan areas across the nation. I'm also the Executive Director of the Sacramento Metropolitan Air Quality Management District. On behalf of NACAA, thank you for the opportunity to testify today.

NACAA's very pleased to support this proposal. We note that there is a broad group of stakeholders that supports the agencies' actions to continue and build upon the national program adopted in 2010 to reduce greenhouse gas emissions from and improve the fuel economy of model year 2011 through 2016, light-duty vehicles.

The estimated benefits of this proposal include a reduction in oil consumption of 4 billion barrels and a reduction in greenhouse gas emissions of 2 billion metric tons, fuel savings on the order of 347 to $444 billion, at a monetized net benefit to society in the range of 311 to $421 billion.

The co-benefits to be derived from such a program extend far beyond climate change, and include:

Reduced fine particulate and nitrogen oxide emissions;

Mitigation of disproportionate adverse health impacts on environmental justice communities affected by emissions from high traffic and located near

gasoline refining and distribution facilities;

Reduced adverse health impacts near roadways due to the increase in cleaner vehicles;

Reduced risk of accidental spills of crude oil due to a proportional reduction in oil imports;

Buffering against gasoline price volatility for consumers and a hedge against rising fuel prices due to increased use of domestic and alternative fuel sources;

Economic growth and the creation of high-quality jobs across the country due to the need for innovative automotive technologies upon which the standards rely;

And reduced hydrocarbon emissions due to lower fuel throughput at retail distribution outlets.

I would like to offer some additional comments on three specific issues. My written testimony provides more details and offers comments on other issues.

First, we understand that EPA and NHTSA are proposing that passenger cars have an average rate of improvement of 5 percent for years 2017 to 2025. However, light-duty trucks will start with an average rate of improvements of 3.5 percent for 2017 through 2021, which increases to 5 percent for 2022 through

2025. These proposed rates of improvement are envisioned to result in an average CO2 emissions rate of 163 grams per mile with an average fleet performance of 54.5 miles per gallon, if every manufacturer incorporates enhanced engine technologies. In addition, the proposal provides only a conditional approval of the NHTSA standards for 2022 through 2025 vehicles.

NACAA supports the agencies' goal of a fleetwide performance that will result in 54.5-miles-per-gallon efficiency. We are concerned, however, that the approach taken in the proposal may undermine achievement of this goal. In fact, in a recently published study, researchers at the University of Michigan consider whether allowing a more lenient 3.5 percent rate of improvement for larger vehicles creates an incentive for the manufacture of larger vehicles, thus undermining the goal of the 54.5-mile-per-gallon fuel economy standard. Accordingly, we urge EPA and NHTSA to ensure that the full measure of the envisioned reductions is achieved.

Further, once this program is in place, it is critical that the agencies closely track progress in meeting the standards. In particular, the agencies should determine at the midterm evaluation whether

credit use is allowing the production of a greater number of vehicles that do not need -- that do not meet the 5 percent rate of improvement requirement.

Second, EPA projects the cost of new technology will add, on the average, about $2,000 to the price of 2025 vehicle. We recognize that consumers will recoup this cost in fuel savings. However, greater market penetration in early years of vehicles equipped with the technologies needed to meet your 2025 emissions and fuel economy requirements should bring down vehicle cost in later years of the program and also reduce criteria pollutant emissions as well as greenhouse gases.

Third, we recognize that this program is a vehicle tailpipe emissions control program. As such, it is appropriate to assign a tailpipe emissions level of 0 grams per mile CO2 for all electric vehicles, plug-in hybrid, electric vehicles and fuel cell vehicles, as EPA does in early years of the program with per-company cumulative sales cap for 0 grams per mile in later years.

We also believe that EPA accurately portrays the status of upstream emission in the proposal, and that it is appropriate to encourage the initial commercialization of advanced technology while

monitoring the status of upstream emissions.

Once again, we are pleased to express our support of this important proposal and appreciate this opportunity to provide our testimony. Thank you.

MR. MEDFORD: Thank you.

Mr. Busch.

TESTIMONY BY CHRIS BUSCH

MR. BUSCH: Thank you.

Good morning, distinguished members of the panel. Thank you for the opportunity to comment today. My name is Chris Busch, and I'm the policy director of the BlueGreen Alliance, a national partnership of labor unions and environmental organizations.

BGA commends the Obama administration for its outstanding leadership on this critical issue. The California Air Resources Board and Brown administration also deserve praise for working constructively with the federal government to develop this proposal.

We strongly support the proposed vehicle standards, which are a great example of how we can achieve simultaneous progress on our economic and environmental challenges. The proposed standard offers the opportunity to create quality manufacturing jobs, to reduce our reliance on imported energy, to reduce

our vulnerability to crude oil price volatility, to clean the air and reduce the accumulation of heat-trapping gases in the atmosphere, and to improve our energy security and national security.

Crucially, the proposed standard will help to create many thousands of jobs through net consumer savings on fuel, as well as spending on higher performing vehicles. An initial assessment of the job impact by the University of California Professor David Roland-Holst finds that the proposed standard will create more than 200,000 jobs by the year 2025 in California alone.

This standard will give Americans more advanced vehicle choices, which in turn will help consumers save money at the pump. By making it less expensive to drive, by covering the same ground but using less fuel, consumers will have more money left over to spend or invest in other economically beneficial ways.

In addition to the direct savings for those purchasing new cars and light trucks, the proposed standard will also put downward pressure on gasoline prices by reducing demand. Simple demand-supply logic suggests that the standard will put downward pressure on the transportation fuel prices by putting downward

pressure on the demand for transportation fuels. All drivers will benefit through lower gas prices than would be expected otherwise.

Some of the fuel savings created by the standard will go to cover the modest incremental cost of higher performing vehicles. This diversion of spending from fuel to vehicle improvements also has the effect of boosting job creation. This is because vehicle manufacturing is more labor intensive per dollar spent.

The American auto industry is a great success story. We're seeing billions of dollars in investments in America to retool and expand factories. Smart, supportive government policy deserves some credit for this. Approximately 40,000 U.S. jobs have been preserved and created since 2009 through programs like the Advanced Technology Vehicles Manufacturing Loan Program. The Center for Automotive Research in Ann Arbor predicts that the auto industry will see a surge in over 200,000 employed by 2015. Meanwhile, a new Consumer Reports survey finds that 77 percent of consumers want more energy-efficient vehicles. Automakers are already pushing energy innovation in response to the historic 2012 to 2016 standards as well as growing consumer demands. For automakers, the

proposed standard will provide greater certainty over the shape of the future market and greater confidence that energy innovation will be rewarded.

While job creation is a paramount concern, we should not discount the other benefits that the proposal will consider. If we are ever to make meaningful progress on our imported energy dependency and avoid accelerated climate destabilization, we will need well-conceived policies such as these.

We look forward to continuing our engagement with your agency and other stakeholders working to implement a strong standard that will maximize oil savings and reductions of heat-trapping pollution, strengthen the U.S. auto industry and create more opportunity for American workers. Thank you very much.

MR. MEDFORD: Thank you.

Professor Dempsey.

TESTIMONY BY DAVE DEMPSEY

MR. DEMPSEY: Thank you very much for the chance to testify this morning. I predict you have a long day ahead of you.

I'm Dave Dempsey, a professor of meteorology at San Francisco State University. I'm trained in atmospheric dynamics and computer model building. I've

been teaching science of climate change for about 11 years now.

I know that the proposed standards are based on -- in part on the science of climate change, and I wanted to take this opportunity to confirm the validity of that science.

Probably the single most exhaustive and credible source of information about climate change is the Intergovernmental Panel on Climate Change, which issued its fourth report in 2007 based on research through 2005. They won a Nobel Peace Prize for its work that year. It represents a consensus perspective of somewhere between 3,000 to 4,000 climate scientists from around the world, as well as government representatives. Because it's a consensus document, it's relatively conservative.

In 2010, the Congress asked the National Research Council, which is another distinguished group of scientists who advise Congress and other parts of the federal government, to update the 2007 IPCC report and offer advice about how to respond to climate change. That 2010 report concluded after looking at the evidence -- well, as new evidence that came out since 2005. I quote: A strong and credible body of scientific evidence shows that climate change is

occurring, is caused largely by human activities, and poses significant risks for a broad range of human and natural systems.

In particular, the IPCC report and the National Research Council report and other reports by credible groups since then all confirm that carbon dioxide emissions from burning of fossil fuels is the single largest driver of global warming and climate change that results from that.

The IPCC produces reports every six years. The next one is due out next year. They have been busily working on updating the science since the 2007 report. Last month at the American Geophysical Union conference here in San Francisco, attended by something like 20,000 geoscientists from around the world, there's some preliminary results from some of the 19 modeling groups, climate modeling groups that have been updating and refining their models and looking at projections for the future. And those projections, early reports show the same results that the 2007 report reported or perhaps slightly worse. So the evidence that the climate science is presenting to us about what's going to happen to the climate in the future is very consistent. It's getting stronger. It's mounting. It's very clear what's going on.

Climate change is global. Its causes are global, but the effects, the impacts tend to be local. And here in California, the state established in 2005 a climate action team to become kind of a California IPCC. In 2009, they issued a report on what the likely impacts of climate change might be in California and documented the damage to agriculture and forestry and water resources, coastal energy -- coastal areas, rather, energy production and public health as a result of rising sea levels and increased frequency and strength of heat waves and melting snow pack, and so on and so forth.

I understand that economic projections are quite a bit less certain than climate projections. Climate projections are getting better and better. The science is pretty clear. But the economic projections they made were that the costs of climate change in California might run to tens of billions of dollars a year under some scenarios. It's going to be expensive and painful.

We face a dilemma with trying to mitigate climate change because the effects of climate change lag behind the causes by several decades. The carbon dioxide we put into the air now won't have its full impact for another 10, 20, 30 years down the road.

That makes it hard for free market mechanisms to put a price on the true cost of carbon today, since people don't respond to it. The several ways to try to overcome that, like -- include putting a tax on carbon, putting caps on carbon, and those are not politically acceptable. The next best thing is going to be standards like those that are being proposed. And I support that.

Thank you for your time.

MR. MEDFORD: Thank you very much.

Mr. Barrett.

TESTIMONY BY WILLIAM BARRETT

MR. BARRETT: Good morning, and thank you for the opportunity to speak to you this morning. My name is Will Barrett, policy manager for the American Medical Association in California. I'm here representing the 6 million California residents with lung disease and the tens of millions that desire to breathe clean air in their communities.

The American Lung Association in California applauds the collaborative effort put forth by the Obama administration, the State of California, automakers and environmental stakeholders to develop this proposal that we believe will have a lasting impact on improving

public health. The American Lung Association in California encourages the administration to pursue strong, clean air programs to improve the health and air of not only Californians, but all Americans.

Increasing fuel economy standards to 54.5 miles per gallon in 2025 and tightening emissions standards to halve greenhouse gas emissions by 2025 compared to today has the potential to transform our nation's vehicles into a cleaner, more efficient fleet that will reduce our addiction to oil, save consumers at the pump, provide expanded choices in cleaner vehicle technologies, and at the same time, cut harmful emissions that endanger the public's health.

The American Lung Association's annual State of the Air Reports continue to demonstrate that California dominates the list of the most polluted cities in America. The 2011 report found that California had eight of the top 10 most ozone-polluted cities in America. And, again, the city of Los Angeles and the Los Angeles region had some of the most challenging ozone pollution in the country. Our report found that half the nation, over 154 million Americans, continue to live in areas with dangerous levels of smog or particulate pollution.

Dirty air in California contributes to 9,200

premature deaths, tens of thousands of hospitalizations for respiratory and cardiac illnesses, hundreds of thousands of asthma attacks and millions of lost school and workdays each year. The health and medical costs for air pollution-related illnesses add up to billions of dollars in health costs for families and place huge burdens on our healthcare providers and infrastructure.

We know that higher levels of death and illness from pollution exposures are experienced by our most vulnerable individuals and communities, including those with asthma or other respiratory and cardiac illness, the elderly, our children, low-income communities, communities of color, and people living near pollution hot spots, including heavily traveled roadways.

Without strong action to reduce greenhouse gases, rising temperatures due to climate change will lead to even higher suffering from increases in ozone pollution, pollen production, expanded heat waves, devastating wildfires and accompanying wildfire smoke exposures. These will also impact our most vulnerable communities the hardest.

The new greenhouse gas and fuel economy standards are an important milestone in the fight against climate change, air pollution and the serious

public health impacts of our petroleum dependency and consumption.

Recent polling by the American Lung Association and other organizations that you've heard about today suggest widespread support for decreasing harmful emissions across America and increasing the fuel economic standards.

The list of supporters for the proposed rule extend across party lines and include small businesses, energy security experts, public health community, conservation groups and many, many others. Americans want more choices in their vehicle technology, greater efficiency, energy independence and cleaner air.

While we know that these standards alone will not solve climate change, continued technological advances spurred by the Clean Air Act are vital to building momentum and protecting the public's health. Because of existing standards, we're already seeing cleaner cars, including zero-emission vehicles on the roads today. And these new standards will serve to further push the market for clean-vehicle options over the next decade as automakers invest in new advanced technologies and consumers experience savings and other benefits.

Therefore, we urge you to implement strong

rules that will withstand any attempts to undermine these goals, as well as to whether any midterm program review that may be viewed by some as an opportunity to weaken the standards previously agreed upon. The midterm review may have ramifications for the State of California and the programs in place here. It will align with the national standards, and it must remain clear that California maintains its own Clear Air Act authority to enact our own rules more stringent than the federal rules due to our extreme air quality challenges.

We urge you to move forward with the stronger rules and ensure that they are implemented as planned and on schedule for 2025. As the rulemaking process moves forward, we look forward to working with you to engage in the implementation and the evaluation of these rules being discussed today, protect public health, air quality and the environment from the worst effects of climate change.

We also look forward to dealing with you in your future efforts to update and strengthen the current criteria emission standards for vehicles. Just last week, the American Lung Association, in coordination with six other leading public health organizations, wrote to the EPA administrator, Lisa Jackson, to request that she move forward with Tier 3 vehicle emissions and

fuel standards and that the EPA finalize those standards as soon as possible.

So in closing, thank you very much for your time and the opportunity to comment on these historic standards, and we urge you to move forwarded to protect the public health. Thank you.

MR. MEDFORD: Thank you.

Any of my colleagues have questions?

I'd like to thank all of you for taking your time today and providing excellent testimony.

(short recess taken)

MS. OGE: Are you ready to start the second panel?

TESTIMONY BY JOHN CABANISS

MR. CABANISS: Good morning. My name is John Cabaniss. I'm director of environment and energy for the Association of Global Automakers. Global Automakers represents international motor vehicle manufacturers, original equipment suppliers and other automotive-related trade associations.

Our association and our members have always endorsed a comprehensive and harmonized national approach to reducing greenhouse gas emissions and improving fuel economy. The alternative of having a

patchwork of state requirements would add significant costs with no corresponding environmental or energy benefits.

We've been working with the agencies, EPA, NHTSA and the California Air Resources Board to create a program that meets our national and environmental energy objectives while providing manufacturers with the flexibilities and lead time necessary to design and build advanced technology vehicles that will provide consumers a full range of vehicle choices. This proposal brings us another step towards our goal of a long-term, single national program.

The standards proposed are extremely stringent and are based on a large number of suppositions about technology and the auto market over the next 14 or so years. By extending the standards for many years into the future, the agencies provide us -- the manufacturers, that is -- with substantial lead time, but this long time frame involves substantial uncertainties, especially in the later years.

For this reason, we support strongly the proposed midterm review to reassess the stringency of the standards, including technology penetration rates, fuel costs, the availability of alternative

refrigerants, and most importantly, the consumer acceptance, as has been noted before.

We also support the flexibility mechanisms and credits that the agencies proposed to make available. These provisions enhance the ability of manufacturers to meet market demand while maintaining the benefits of the program.

They also provide another means of dealing with the uncertainties associated with the out years especially. The various credits are all employed in one way or another. The credit banking and trading program itself, the off-cycle credits, the advanced technology credits, the air-conditioning system credits are all important features that are essential to the program.

We also support the credit-based compliance option for methane and nitrous oxide standards, as well as the new upward adjustment approach to allow these standards to be included with carbon dioxide emissions. However, we would like to see more flexible -- more flexible compliance options and will be addressing that in more detail in our written comments.

With regard to the testing of many nitrous oxide emissions in model year 2017, we urge the EPA to reconsider this requirement. The quantities of these

emissions is quite low, and we see no indication that they will become an important factor in climate change in the future.

Additionally, Global Automakers supports the case-by-case small-volume manufacturers' approach as well as harmonization of the definitions for small-volume manufacturers. The case-by-case approach allows the flexibility that this small segment of the industry needs while maintaining requirements necessary to control greenhouse emissions.

Finally, while we understand fuel-related issues are not within the scope of this proposal, we continue to support a systems approach for both fuels, technologies and fuel -- vehicle technologies and fuel quality, both being of paramount importance. Lower sulfur gasoline, for instance, will be instrumental to automakers in introducing advanced technologies needed to comply with these standards. Also, a number of advanced technologies involve significant infrastructure issues. We look forward to working with the agencies on these issues under the upcoming EPA Tier 3 regulations and other forums, including the midterm review.

And as Mr. Cackette noted, harmonization on the criteria pollutant side will also provide

additional significant benefits on which we will focus in the Tier 3 rulemaking. We're continuing to analyze the proposed regulations. We will address greater detail in written comments.

Let me just restate our strong support, and appreciate the opportunity to speak today.

MS. OGE: Thank you.

Mr. Forrest McConnell. Good morning.

TESTIMONY BY FORREST McCONNELL

MR. McCONNELL: Good morning. On behalf of the National Automobile Dealers Association, I thank you NHTSA and EPA for holding today's hearing. I'm also president of McConnell Honda & Acura in Montgomery, Alabama.

Totaling the administration's final and proposed fuel economy mandates results in an average vehicle cost increase of at least $3,200, a substantial amount that every new car buyer will have to pay up front. As Don Chalmers explained last week, NADA believes that the actual total increase will be even higher. Thus, customers who come into my showroom in 2025 will face vehicles that, as a result of these rulings, are dramatically more expensive than they are today.

Some tout that the cost of the proposal is essentially free because of fuel savings. But before any fuel savings can be realized, customers must have the ability to buy. For over 90 percent of Americans, the purchase of a new vehicle is contingent on getting approved for a loan or a lease. If they don't qualify, they can't buy. They can't buy, they can't save money on fuel.

So as someone who works every day to secure financing for my customers, I'm unaware of anybody who will fund auto loans based on the promises of fuel savings. Loan qualification is based mainly on the income of the customer and on the vehicle price. What's clear is this proposal will make it harder for many customers to obtain financing, eliminating their ability to realize any fuel savings.

Specifically, NADA is preparing an analysis that conservatively estimates that about 7 million licensed drivers will be priced out of the new car market entirely when this proposal is fully implemented. But this consequence is not limited to those motorists who can only afford the most inexpensive vehicle. Let's talk about the family buyer. For example, our study also estimates that over 7 million licensed drivers would no longer qualify for

financing to buy the lowest cost family vehicle, such as the Dodge Journey, which accommodates more than five people or more than two child passenger safety seats. This will be devastating for large families or families with small children that would like to carpool. And the burden of this rule is not even spread evenly. California, the most populous state, will see 662,000 of its citizens no longer able to qualify for a new car loan. In Tennessee, 5 percent of licensed drivers will be shut out of the new car market.

Moreover, the U.S. Energy Information Administration finds that this proposal will regulate out of existence the most affordable cars on the market today. Adjusting for inflation, the Energy Economic Information Administration claims that in 2025, there will no longer be new vehicles on the market costing $15,000 or less. These are the vehicles I sell to smart frugal buyers, college students and working families. How can a rule that eliminates the most affordable new cars on the market be pro-consumer? You're right; it's not.

The total cost of the administration's three fuel economy rules is approximately 210 billion. To put this figure into perspective, that's more than twice the amount of total government aid to the auto

industry in 2009 and '10. The $157 billion proposal is by far the costliest auto regulation ever, and comes on the heels of the 2010 record-setting $51 billion fuel economy rule. I always have to remember that a billion is a thousand million.

And of course, these new regulatory costs will be borne by customers. And they exclude the billions of dollars in other new regulations you and California regulators have planned. No one in the government seems to be looking at the bigger picture of what all this regulatory activity is doing to the affordability for the average American.

No fuel economy proposal has ever been finalized this far in advance, largely in recognition of critical hard-to-forecast factors such as future fuel prices and consumer preferences. By waiting two or three years, you would better know what the auto market can bear in 2017. Apparently, one reason why this proposal is some three years early is because California regulators threatened to implement what EPA director, Lisa Jackson, has called a patchwork of state standards. NADA strongly believes that the issues and goals involved in this rulemaking are national in scope, and that California regulators should not be dictating national policy or setting fuel economy

standards. We all want fuel economy, but it's not free. By adding $3,200 to the cost of a car, over seven million Americans will be priced out of the market, fleet turnover will be reduced and global warning benefits will be delayed.

Now, finally, America's auto dealers support continuous improvement to fuel economy. Instead of fighting the customer, we urge the administration to act in a measure [sic] that will leverage consumer demand, maximize fleet turnover and ensuring maximum feasible fuel economy increases.

Thank you for listening. I'll be happy to answer any questions you may have.

MS. OGE: Thank you.

Mr. Jack Gillis. Good morning.

TESTIMONY BY JACK GILLIS

MR. GILLIS: Good morning. My name is Jack Gillis. I'm director of public affairs for the Consumer Federation of America and author of The Car Book.

CFA is an association of nearly 280 nonprofit consumer organizations working on research, consumer education and advocacy. We greatly appreciate the opportunity to testify on what we believe is an

historic landmark in U.S. energy policy. The proposed standards will deliver major economic security, air quality benefits to consumers and the nation while putting the U.S. auto industry back on the path to global success.

We are not alone in the support of this standard. Consumers, automakers and autoworkers recognize the important need for achievability of more fuel-efficient vehicles.

It is remarkable that 13 of the 16 major car manufacturers support these standards. Clearly, they know they can manufacture the vehicles that meet the standard, and they understand it's what their consumers want and will pay for.

The only major opponents of this consumer-backed policy are the car dealers. Their opposition shows what I believe to be an incomprehensible reaction to the desires of their customers, the capability of manufacturers that they sell the cars for, and the critically important need to reduce our dependency on foreign oil. So we appreciate the opportunity to respond to our good friends in the auto dealers community.

And let me just submit for the record some very specific responses to their concerns, but I'd like

to highlight a few points that were recently raised.

The car dealers say that fuel economy performance is typically not high on the consumer's list of priorities. If this were, in fact, true, why do we see so many car companies advertising fuel economy as a selling point. The car manufacturers who spend millions of dollars studying consumer behavior obviously disagree with their dealers. Fuel economy is the very top priority for consumers looking to purchase a new car. In fact, Consumers Union, the publishers of Consumer Reports, determined that fuel economy was the number two reason why consumers would change their brands of vehicle.

The NADA has said that just because vehicles can be built doesn't mean that they will be bought. Actual sales data, however, is very clear. Consumers want and will pay for more fuel-efficient vehicles. And the manufacturers supporting this new standard have agreed to make them. Consider Ford, for example. The combined sales of their two new fuel-efficient cars, the Fiesta and the Focus, in May 2011 are up 74 percent in one year.

Car dealers have expressed concern about jobs and dealerships, implying that the standards might further hurt them. Yes, the -- like everyone in the

economy, car dealers are reeling from the financial setbacks. The reduction in the cost of driving from these new standards, however, will cause more autos to be sold and over 100,000 jobs to be created. More jobs and vehicles that are less expensive to drive means more consumers, not less, will be buying cars.

And in closing, I'd like to respond directly to the points that we just heard: Concern about the consumer's pocketbook.

Right now, gasoline prices are at a record high, averaging $3.53 a gallon. Last year, household gasoline expenses set a record reaching over $2,800 per year. That's 40 percent higher than the expenditures on all home energy for consumers. That's electricity, natural gas and heating.

Ten years ago, they were 13 percent lower. Ten years ago, the cost of owning a vehicle was the largest single component of the cost of driving, about three times as high as the cost of gasoline. Last year, for the first time, the cost of gasoline will equal or exceed the cost of car ownership. And that's why the Consumer Federation of America believes very, very strongly that the car dealers are wrong. Consumers are desperate for more fuel-efficient vehicles. Consumer pocketbooks are hurting and more

fuel-efficient vehicles will drive more and more consumers into the showroom. Right now, there are not enough fuel-efficient vehicles on the market to meet consumer demand.

So we are not worried about the increase in price associated with the technology because that increase in price will be paid back to the consumer who takes a typical five-month [sic] loan out during that very first month [sic]. The past 16 years, automobiles have increased an average of $500 a year. So this is a small price to pay for extra fuel economy and extra savings. Thank you very much.

MS. OGE: Thank you.

Ms. Barbara Nocera. Good morning.

TESTIMONY BY BARBARA NOCERA

MS. NOCERA: Yes, good morning. We appreciate the opportunity to offer comments on behalf of Mazda North American Operations, headquartered in Irvine, California, and its parent company, Mazda Motor Company.

We fully agree with and support the comments provided separately by the Alliance of Automobile Manufacturers. Our detailed technical views will be represented in the Association's written comments that

will be filed before the February 13 deadline.

Mazda's committed to developing and introducing technology to significantly reduce greenhouse gas emissions in our vehicles. We believe that the best approach to achieve real-world greenhouse gas reductions is to develop technology that can be applied across our product line and made available to all of our customers at an affordable price. To that end, Mazda's SKYACTIV TECHNOLOGY includes new high-compression gasoline and clean diesel engines, new six-speed automatic and manual transmissions with improved efficiencies over previous designs, and newly designed vehicle chassis and suspension components focused on improving performance and reducing weight.

The first vehicle being introduced in the U.S. incorporating many components of the SKYACTIV TECHNOLOGY is the 2013 model year CX-5 SUV available at Mazda dealerships next month, which has a highway fuel economy rating as high as 35 miles per gallon, the best in class for a crossover SUV, and that includes hybrid SUVs.

The 2012 Mazda3, which went on sale last fall, was the first use of new SKYACTIV gasoline engine and transmission. It sees a 7-mile-per-gallon jump in highway fuel economy to 40 miles per gallon, up from 33 miles per gallon in the previous version.

As one of the 13 auto makers that signed the letter of commitment, Mazda welcomes the opportunity to be a partner in helping to advance a continued, harmonized national program on fuel economy and greenhouse gas emissions for the 2017 to 2025 model years. While offering manufacturers the certainty of knowing the fuel economy targets for many years into the future, the proposed standards do represent an extreme technical challenge for the auto industry, and especially for smaller automakers, such as Mazda, who have more limited resources to develop and market advanced technology vehicles. Nonetheless, we are committed to making our best efforts to meet the proposed targets. However, we'd like to comment on one technical issue in the proposed regulation.

Mazda fully supports the proposed extension of the availability of off-cycle credits for model years 2017 to 2025. Additionally, we support providing equivalent fuel consumption and CO2 credit values towards both the greenhouse gas and CAFE programs, helping to further harmonize one of the many remaining differences between the two regulations. We agree that continuing the off-cycle credit program provides an incentive to manufacturers to introduce new technologies that produce concrete environmental and fuel consumption

benefits, provides flexibility toward meeting the increasingly stringent standards, and encourages investment into technologies that will have a payoff over the longer term.

While we strongly support the concept of a predefined list of off-cycle technologies, we urge the agencies to eliminate the proposed 10 percent minimum penetration rate. Requiring a minimum penetration rate would discourage companies from offering a new technology on a limited basis to test the technology and gauge consumer acceptance before launching it more broadly.

Moreover, new technologies are typically added when a model is redesigned or updated. To give a specific example, adding one of the off-cycle technologies on the predefined list to either the Mazda2, Mazda5 or the Miata models would result in no credit because they each account for less than 10 percent of our fleet. The 10 percent minimum penetration threshold or any other minimum penetration rate may well have the unintended consequence of encouraging manufacturers to postpone technology application until a model that accounts for the acquired percentage is redesigned rather than installing it earlier on a lower volume model.

Thank you for the opportunity to provide Mazda's views.

MS. OGE: Thank you.

Mr. John Holtzclaw. Good morning.

MR. FLEMING: Good morning. My name is Payton Fleming, and I'm the senior director at CERES.

MS. OGE: Just a second.

Do we have John Holtzclaw?

MR. HOLTZCLAW: Yes. Welcome to San Francisco.

MS. OGE: Thank you.

TESTIMONY BY JOHN HOLTZCLAW

MR. HOLTZCLAW: I'm John Holtzclaw. I am the volunteer lead in the Sierra Club's Green Transportation Campaign. And our campaign is a broad campaign, a comprehensive campaign, both in the types of modes and in the coverage; national, state and local, all parts of the campaign.

Part of our campaign is reducing the amount that people have to drive, reducing the VMT and driving. In order to do that, you have to make convenient neighborhoods, so that people have short trips, so that they can walk and bike those trips, so that they can take transit. And to do that, you need

higher density so that there are more things nearby, modify some of the zoning laws that say you can't have a market or restaurant or a cafe or job-creating area in residential neighborhoods. We need to reform those zoning laws.

It also means creating streets that are friendly for people who walk or bike: Wider sidewalks, bike lanes, things like that, shorter streets, short streets so that the traffic is more calm and you have more places to cross the street. It also means -- and that's called complete streets. And HUD is doing a great job of trying to implement complete-streets measures.

It also means improving public transit. So that for those longer trips, you do have a transit option so that you don't have to drive. It means pricing auto use, pricing parking so we don't subsidize people's driving. We encourage them to find other means.

Modes of getting around: It also means car sharing, which increases people's options if they have to drive. I personally got rid of my car in 1978, a third of a century ago. And I did it for a number of reasons: One is I wasn't using it very much because I live in a convenient area, a mile to the south of here.

I also did it because of activity and health. I walk more. I bicycle.

And you feel better and you're healthier. It helps keep your weight down. Also for social. When you walk or when you bike or when you take transit, you meet other people. You can flirt; you can talk. It's very enjoyable. Don't try that while driving.

Also reducing the angst of, you know, traffic congestion, where I left my car, things like that. And reducing pollution, global warming gases, particulates and ozone precursors.

And all over this city and New York City and others like that, there are a lot of people who have given up their cars or who drive much less, have learned to drive much less. And they are doing their share for the planet. And when they do their share, they look at the polluting cars and the 1 percent that designed those polluting cars, and they say: Why don't you do your job? Why don't you do your share?

So we strongly support this round of measures to reduce the amount of pollution emissions per mile, and we also look forward to the next round of standards. In Europe, auto manufacturers already have to meet a 47-mile-per-gallon standard. It's only 7.5 more miles per gallon, and they have 13 years to make

it. So we're competing over there. We should be able to compete here and make the standards that you set up very easily.

Thank you very much. And we're looking forward to the next round.

MS. OGE: Thank you.

Mr. Henry Hugo. Good morning.

TESTIMONY OF HENRY HOGO

MR. HOGO: Good morning. My name is Henry Hogo. I'm the assistant deputy executive officer for Mobile Source Division at The South Coast Air Quality Management District. Thank you for the opportunity to speak today on the proposed rule. The South Coast AQMD staff supports overall the proposed greenhouse gas emissions standards and timeline. The proposed emissions standards and companion fuel economy standards will result in a significant reduction in greenhouse gas emissions, as well as provide crucially important co-benefits in reducing criteria emissions in support of attainment of federal and state air quality standards for ozone and particulates.

Over 25 percent of the nation's exposure to the federal eight-hour ozone standard occurs here in the South Coast Air Basin, while over 50 percent of the

nation's annual PM-2.5 exposure occurs in the South Coast Air Basin as well. There are over 10 million registered light-duty vehicles in the South Coast Air Basin. Reductions in fuel use associated with the proposed standards will therefore have a direct and tangible benefit in terms of public health and welfare in our region.

Relative to the proposed rule, I would like to express the South Coast AQMD staff support of the comments provided by the National Association of Clean Air Agencies. In addition, we want to emphasize that additional assurances are needed to ensure that the overall fleet performance of 5 percent is met. The proposal rule allows light-duty trucks produced in 2017 to 2021 to improve at a rate of only 3.5 percent. If sales of light-duty trucks during this time period exceeds expectations, then the overall fleet performance will be further reduced.

In addition, the use of early credits may lead to the production of light-duty vehicles that do not necessarily have to meet the 5 percent improvement rate.

To help alleviate these concerns, the South Coast AQMD staff strongly supports incentives for the purchase of light-duty vehicles that are cleaner than the applicable standards in as early as possible time

frame. Increasing the penetration of cleaner vehicles will not only provide additional assurances that the fleet performance will be met, but also help reduce the overall cost of the cleaner vehicles in future years. This South Coast AQMD staff welcomes the opportunity to work with U.S. EPA and NHTSA on mechanisms to incentivize greater penetration of cleaner vehicles, especially zero and near-zero emission and alternative fuel vehicles.

While the focus of the proposed rule is on greenhouse gas emissions, we urge U.S. EPA to move forward with proposals to set criteria pollutant tailpipe emissions standards as soon as possible.

As Mr. Cackette mentioned earlier, the California Air Resources Board will be considering amendments to the California's Low Emission Vehicle Program and Zero Emission Vehicle Regulation on January 26th, which cover greenhouse gas emissions and criteria pollutant emissions for model years 2017 to 2025 light- and medium-duty vehicles. The South Coast AQMD staff believes that the U.S. EPA/NHTSA proposed rule and the Air Resources Board proposed amendments are important actions that will provide additional criteria pollutant reductions needed for our region.

Lastly, we urge U.S. EPA to begin analysis to

set criteria and greenhouse gas emissions standards for vehicles produced after 2025. It is critically important, given that many areas in the U.S. must meet the new eight-hour ozone standard and the potential for ever tighter ambient air quality standards.

In summary, we strongly urge U.S. EPA and NHTSA to finalize the proposed rule as early as possible. Thank you for the opportunity to speak.

MS. OGE: Thank you. Mr. Paul Monroe. Actually, Major General Paul Monroe. Good morning.

TESTIMONY BY PAUL MONROE

GENERAL MONROE: My name is Paul Monroe. I'm a retired major general and a former adjunct general of the California National Guard. I also represent the Truman National Security Project, and we support the proposed fuel standards. Thank you for this opportunity to speak on this program.

We heard a lot of risks that we face if we fail to take action. Let me tell you how the military's evolved.

Some years ago I was a battalion commander, I thought gas was just something you put in the tank to make aircraft vehicles and generators go. Our main training area was located some 225 miles from our home

station. We would convoy in military vehicles to the training site. We also brought with us a 5,000-gallon tanker to refuel the vehicles during the course of the convoy. It was common for battalion-size units to possess 5,000 tankers.

And then I was directed by my superiors to turn in our tankers, position equipment we would need for training at the training site, and our soldiers would be bussed from home station to the training area. This eliminated a valuable part of our training. Military units need to know how to organize and execute a road march.

When I asked why the change in policy, I was told that fuel's becoming too expensive. I was also informed that the most -- that most of the fuel we consume was imported from countries that may or may not be friendly to the United States. That got my attention. We all modified our training and attempted to reduce our dependence on fossil fuels, imported or not.

However, at that time there was no national or service policy on how to approach the amount of fuel we consume. Then, in 2010, the Department of Defense included a fuel policy in its Quadrennial Defense Review. This report identified our dependence on

imported oil as a national security threat. This is not a threat that will happen if we don't take action. It's happening right now. The fuel we depend on to secure Afghanistan is constantly interdicted by attacks on our fuel convoys.

So what can we do? Well, quite a bit, actually. The military has set ambitious goals to diminish the amount of fuel we consume, reduce emissions and use a greater percentage of renewable energy. The Navy's developing a biofuel that will power its aircraft. The Navy's Great Green Fleet is scheduled to sail in 2016. The Marines have developed a solar power generator to power their command post. The Army will reduce energy consumption, increase energy efficiency and increase use of renewable energy. The Air Force also has an ambitious energy savings program.

But it is not only the military's use of imported fuel that makes us vulnerable. We as civilians are also contributing to the security threat to our nation. Automobile manufacturers have agreed to the proposed fuel standards; however, our direct action needs to be reduction of personal use of energy. We send money to our enemies and others who do not share our values or have our best interests in mind.

This is a perfect opportunity for this

administration to show us leadership, as our military leaders have done. To keep America safe, we must adopt strong fuel efficiency standards.

Thank you.

MS. OGE: Thank you. Payton Fleming. Good morning.

MR. FLEMING: Hi. I'll try again.

MS. OGE: Okay. Second will be better.

TESTIMONY BY PAYTON FLEMING

MR. FLEMING: As I said, I'm Payton Fleming, senior director at Ceres, a national coalition of investors and public interest groups working with major companies to address the sustainability challenges such as climate change. Ceres also coordinates the Investor Network on Climate Risk, a network of 100 institutional investors, mostly in the United States, who collectively manage about $10 trillion of assets. And this network is focused specifically on the business risks and opportunities of climate change.

I'm here today to speak in support of the strongest possible mileage and emissions standards. Ceres' July 2011 report, "More Jobs Per Gallon: How Strong Fuel Economy/Greenhouse Gas Standards Will Fuel American Jobs," found that a 54.5 mpg standard will

create about 484,000 economy-wide new U.S. jobs, including 43,000 in the auto industry alone and net job gains in 49 of the 50 U.S. states. National gross economic output would rise by tens of billions of dollars. And it's very important to note that the higher the standard, the greater the economic gain. This is from the report that we put out last summer.

A second report we collaborated on last year with Citi Investment Research, a bank in New York, found that stricter fuel economy standards will bring economic benefits to auto manufacturers, especially the Detroit 3 and their suppliers. The report shows that strong standards will improve the competitive positioning of U.S. automakers and provide the regulatory certainty needed to promote innovation and investment in the industries of the future.

Strong standards will also serve to mitigate climate change risks and the very significant economic as well as environmental and human disruption that a changing climate will likely cause -- and, in fact, is already causing. Strong standards will reduce America's and California's dependence on foreign oil, save vast amounts of money for consumers at the gas tank and as well as money for businesses and bolster America's world-class vehicle technology companies, many of them

based right here in California.

It's important to stress that an extremely diverse group of stakeholders took part in shaping these standards that you're considering. Labor, U.S. automakers, the California Air Resources Board and federal agencies all came to agreement that these standards are the best path to American's future.

So we hope you'll stand firm in support of strong standards with no loopholes. America's global competitiveness is at stake. We need the jobs strong standards will create, and we have to address climate change urgently and now, not at some future date.

Thank you, and I greatly appreciate the opportunity to be here.

MS. OGE: Thank you.

Ms. Susan Frank, good morning.

TESTIMONY BY SUSAN FRANK

MS. FRANK: Thank you for the opportunity to testify today in support of the administration's proposed fuel efficiency and emissions standards for light-duty vehicles.

My name is Susan Frank, and I'm here today on behalf of California Clean Cars campaign, a coalition of public health leaders, consumer groups, businesses,

local governments, elected officials, organized labor, faith groups, environmental organizations and other diverse constituencies that support the strongest possible standards for California's groundbreaking Clean Cars program. The support for strong emissions standards is far-reaching here in California, as evidenced by the hundreds of businesses, organizations and individuals who have endorsed our campaign. I have a list of our endorsers, which I've provided to the staff up front as well. And many of the people who are addressing you on this panel today or are in the audience are also supporters of our campaign.

Our supporters believe that these standards will make America less reliant on fossil fuels, save consumers money at the pump, reduce greenhouse gas emissions and air pollution, thus saving lives, create high-quality U.S. jobs and strengthen our economy through innovation and investments in advanced vehicle technologies.

You've heard many statistics today. I'll throw out a few more. According to Consumer Reports, 81 percent of Californians believe that all automakers should be required to reduce significantly greenhouse gas emissions from new cars, light-duty trucks and SUVs.

According to a Small Business Majority poll, 87 percent nationwide and 80 percent of California small businesses believe it's important to increase fuel efficiency in cars and light trucks.

Across party, age, gender and religion, there's tremendous support for requiring automakers to reduce greenhouse gas emissions from new cars.

In addition to benefiting consumers' public health and air quality here in California, this is very much about innovation. Strong national standards coupled with Californians' own standards, will drive that innovation and fuel our economy. You've heard about many studies today. I wanted to reference also that same study I think I mentioned earlier, the Next 10 study, that found that proposed national fuel economy and emissions standards could create hundreds of thousands of jobs and increase our Gross State Product while reducing emissions. This is a win-win for our state and for the nation.

And so we applaud the Obama administration, the agencies and all the stakeholders for coming together to develop these proposed national standards. Here in California, we're looking forward to adopting our own Clean Car standards later this week in Los Angeles and to continue to work together to ensure the

cleanest possible cars in California and across the country.

Thank you very much.

MS. OGE: Thank you. Jessica Zenk, good morning.

TESTIMONY BY JESSICA ZENK

MS. ZENK: My name is Jessica Zenk, and I am the transportation policy director for the Silicon Valley Leadership Group. Thank you for coming to the Bay Area and allowing us the opportunity to weigh in this morning.

The Silicon Valley Leadership Group is a member-driven organization representing over 350 of the most innovative companies in California and roughly a third of the private-sector employment in Silicon Valley. We have long supported efforts to green our transportation options overall in many ways, among them greater fuel efficiency. We do this because of the environmental improvements, the public health improvements, the actions to reduce our greenhouse gas emissions as well as our dependency on foreign oil.

But you've heard about that from others, and so I wanted to dive a little more deeply into what Payton and Susan have both brought up, which is that

we're fostering a new economy here. We're building long-term, sustainable, new technologies that are driving innovations because of regulations like the ones that you propose today. This allows for many of our member companies and others throughout the nation, but particularly here in California, to put forward a business model that's sustainable that people are willing to invest in, and that will change the way we can drive our cars in the future.

A substantial, and importantly, the fastest growing portion of our membership at the Silicon Valley Leadership Group are in the fields of clean and green technology, including renewable energy, electric vehicles and related charging infrastructure, batteries, smart-grid applications and other alternative fuels.

So this is a future of our economy in Silicon Valley, California and the nation. The direction you proposed in your rulemaking is the right one, and we thank you for your leadership and the groundbreaking collaborations that you forged.

MS. OGE: Thank you.

Any questions for the panel?

MS. MORAN: I wanted to make one clarification.

Ms. Nocera, I appreciate your comments on the off-cycle credits and the off-cycle technology menu. You mentioned in your testimony that you're disappointed that there's no way to get credit if you don't meet the 10 percent minimum penetration rate for sale.

And I did want to clarify that the EPA/NHTSA proposal does allow a process to do that. If you don't meet the 10 percent minimum sales threshold, we've proposed a streamlined 60-day process where you can come to the agency and propose a credit. And there is a process in there for you to take advantage of. So I hope you'll take a look at that as well. Thank you.

MS. NOCERA: Thank you. I'm aware of that. We were just speaking to the predefined list because we think that's really the best opportunity to get credit for these types of -- adding these types of technologies.

MS. MORAN: Okay.

MS. OGE: Next panel.

(short recess taken)

TESTIMONY BY WAIDY LEE

MS. LEE: My name is Waidy Lee, and I live in the town of Los Altos, California. And thank you for

giving me the opportunity to testify.

I have been an EV driver for over 20 years, and I own two battery electric vehicles. I drive approximately 12,000 miles a year. I'm in the PG&E time-of-use program, paying nine cents for kilowatt hour.

So my EV driving averages 4 1/2 miles per kilowatt hours, just highway and city combined. So my yearly cost of my driving is approximately $240. My yearly cost of maintaining of the battery electric car is approximately $150. That includes all my 10 years of wear and tear, like changing the tires several times, brake and brake pad, something like that.

So if I were to drive a 20-miles-per-gallon-gas car at $3.50 a gallon, it would cost me $2,100 a year in gas saving and approximately $800 a year in maintenance.

In conclusion, the difference of driving a zero-emission car versus a gas car is $390 a year versus $2,900 a year or zero emission, which is 600 gallons per year of fossil fuel.

So the 200 -- $2,500 per year savings that I have covers all my utility, like all my phone bill, my cable, my Internet, my water, my garbage, and several months of housecleaning. Since I'm already a

net-energy producer, so I don't have to pay any electricity, and my house does not connect to any gas because I don't use any fossil fuel, so pretty much, my life is paying the property tax, federal tax, state tax, and I enjoy.

So this is -- you would be for lower -- if you asked the manufacturer to make a standard of 54 miles per gallon, it would make a lot of citizen happy. So I thank you very much for giving me the opportunity to speak today, and I'm happy to answer any question. And I'm sorry, I have to excuse myself. I do have a meeting after this. And I'm happy to answer any questions.

MR. MEDFORD: Thank you, Ms. Lee, for coming in. I think you got everyone's attention when you said your housekeeping bill was taken care of by what you recovered in energy savings.

Thank you very much.

Mr. Holycross.

TESTIMONY OF BOB HOLYCROSS

MR. HOLYCROSS: Thank you. Good morning. I'm Bob Holycross, manager of environmental and energy planning for Ford Motor Company. It's a pleasure to be here today to provide our perspective on this very

important rulemaking.

Just over two years ago, we were standing in the same position, commenting on the first nationally harmonized greenhouse gas and fueling economic regulation, and encouraging the continuation of harmonized requirements beyond 2016. We applaud the combined efforts of the EPA, NHTSA and CARB. This proposal provides our industry both a single program moving forward, as well as a regulatory framework that enables manufacturers to plan and invest for the future with confidence. We are committed to working with you to finalize these regulations.

The standards proposed are aggressive, but so are the demands from our customers for greater fuel efficiency. As a result, we are continually investing in our product strategy to improve the fuel economy and reduce the greenhouse gas emissions of our fleet. Starting this year, one-third of our vehicle lineup will offer a model that achieves at least 40 miles per gallon. In addition to the Transit Connect Electric sold by Azure and introduced in 2010, last year we delivered our first, all-new Ford Focus electric vehicle. Later this year we will start production on our C-Max Energi plug-in hybrid. And just last week, we announced and unveiled our next-generation 2013

Fusion hybrid and an all-new 2013 Fusion plug-in hybrid. You'll continue to see us offer more great products with advanced, innovative technologies to improve the fuel efficiency of our vehicles and to deliver outstanding quality and features that our customers desire.

The key is to ensure that the proposed targets do not outpace consumer demand or the affordability of the technologies needed for compliance. As a full-line manufacturer, we are challenged to meet a broad range of customer wants, such as function, performance, comfort and convenience, safety and fuel economy. And all these attributes need to come together in a line of vehicles that consumers can afford. After all, attainment of our national goals for CO2 reduction and energy security cannot be met by niche products and technologies. It does little good to produce vehicles with improved fuel efficiency unless those vehicles are actually purchased by a wide range of American consumers. Further, the technologies must be self-sustaining in the marketplace and not dependent on long-term government subsidies.

We must also acknowledge that market success is dependent upon many factors outside of our control, such as the price of fuel, the state of the economy or

the availability of affordable technologies and materials. The further we look into the future, the more difficult it is to predict these factors with accuracy. The proposed rules extend through the 2025 model year, which is an unprecedented time frame in the context of fuel economy regulations. This presents a significant challenge for manufacturers. While the establishment of longer-term standards provides manufacturers with targets for future product planning and investment, the longer time frame leads to greater risk that the assumptions underlying the standards do not come to fruition. For example, if the lack of adequate infrastructure hinders the introduction of new fuel-saving technologies, or if fuel prices turn out to be substantially lower than anticipated, it might be necessary to change the standards in order to avoid damage to American auto jobs and the U.S. economy.

This is why the proposed midterm evaluation of the 2022 to 2025 standards is so vital to this joint proposal. As proposed, the midterm evaluation provisions require EPA to make a fresh determination regarding the appropriateness of the post-2021 model year standards after considering a variety of factors and soliciting public comments. This process will take place concurrently with NHTSA's process for setting

final standards for the 2022 to 2025 model years. The midterm evaluation is an essential checkpoint to ensure that the standards for these model years are consistent with evolving market conditions. The existence of a robust, meaningful midterm evaluation process is critical to Ford's support for this rulemaking package.

Turning now to the more specific elements of the rulemaking, we support the relative manner in which the car and truck targets have been set to reflect their respective capabilities to improve fuel economy. This is based primarily on the agencies' updated analysis of full-sized trucks from the 2012 to 2016 rulemaking. In particular, EPA acknowledged it had underestimated the impact of the different pickup truck model configurations in the model year 2012 to 2016 rule. They further acknowledged that the "very largest light trucks have significant load-carrying and towing capabilities that make it particularly challenging for manufacturers to add fuel economy-improving technologies in a way that maintains the full functionality of those capabilities." We concur with the agencies' analysis and conclusions.

Once again, we appreciate the opportunity to provide our testimony on this important rulemaking. We plan to provide detailed, written comments aimed at

achieving and finalizing regulations consistent with the commitment that all parties have made to this national program. Thank you.

MR. MEDFORD: Thank you.

Mr. Goodrich.

MR. GOODRICH: Thank you for this opportunity. I do apologize; I have an appointment immediately afterwards. So with the panel's blessing, I'd like to request a leave afterwards.

MR. MEDFORD: Of course.

TESTIMONY BY TIM GOODRICH

MR. GOODRICH: My name is Tim Goodrich, and I'm a veteran of the United States Air Force. During my enlistment I deployed to the Middle East on three separate occasions: Once in support of the no-fly zones over Iraq; once in support of operations over Afghanistan; and once again in support of the pre-war bombing of Iraq.

During my time in the military, I never thought about how much fuel we used on a daily basis despite the generators, aircraft and flight line vehicles and constant activity around me. However, after my enlistment, I began to see reports that showed the number of service-member deaths resulting from

providing fuel on the battlefield. At that point, I realized there must be a better way. Fortunately, there is a better way, and the military has realized this as well.

The Marines have started fueling [sic] flexible solar panels to supply service members with power that would otherwise be provided by fuel transported over dangerous supply routes. The Navy is planning to utilize domestically produced biofuels to power their ships and aircraft.

My branch of service, the Air Force, is in on this too. I recently took a tour of Los Angeles Air Force Base just a few miles from my home. What I found there was amazing. Solar panels were everywhere, and a large portion of the base is being fueled by renewable energy. The base is also receiving dozens of electric vehicles to replace their current fleet of gasoline-powered cars.

I used to drive a vehicle that got 19 miles per gallon but recently purchased an all-electric vehicle. When considering this purchase, I realized the technology to reduce fuel consumption is already being implemented rapidly and extensively by the military. Basically, if it was good enough for the Air Force, it's good enough for me.

I feel good knowing that I'm promoting our national security by not sending gasoline profits to foreign countries that sometimes provide money to terrorists. I also feel good knowing that the money I spend on electricity to fuel my new car is kept right here in the U.S. economy and helps to create jobs.

For these reasons I wholeheartedly support increasing the fuel efficiency standard to 54 1/2 miles per gallon. Doing so will provide the American consumer with greater choice and the ability to play a role in promoting national security for us and our children. Thank you.

MR. MEDFORD: Thank you very much.

Mr. O'Connell.

TESTIMONY BY DAIRMUID O'CONNELL

MR. O'CONNELL: Thank you very much. My name is Dairmuid O'Connell and I'm vice president for corporate and business development at Tesla Motors. Thank you very much for the opportunity to speak here this morning.

We are largely supportive of the effort to increase vehicle efficiency and to reduce greenhouse gas emissions, and I thank you for your work in this sector.

A little bit about Tesla Motors: The effort was founded in 2004 by several engineers who were familiar with the properties of lithium ion as an energy storage technology. They commenced an effort which they hoped would catalyze a new generation of electric vehicles. Happily, we've made a lot of progress along the way.

The mission of Tesla Motors, largely speaking, is just that: To catalyze a mass market for electric vehicles. We are, in our own way, supporting this effort in a couple of respects. First and foremost, is the development and sale of our own branded vehicles, the first of which was the Tesla Roadster, a vehicle which demonstrates some of the unique and attractive properties of an electric vehicle, no small part, acceleration. But most importantly, achieved 245 miles of range on a single charge. And this year we'll be introducing a sedan at roughly half the price point of our first product that will achieve over 300 miles of range on a single charge and perhaps, more importantly for the vast car-buying public, transport many more folks than a two-seat Tesla Roadster, a five-plus-two configuration, in fact.

Less well known is the fact that we are also defining and manufacturing power-train systems for some

of the leading auto manufacturers in the world. Daimler, for whom we have developed a battery-charging system for a new generation of smart EVs, some of which will be introduced in the market in San Diego just this year in the U.S. They have already been successful in Europe. So, too, the Mercedes A Class, very popular in Europe.

Of more immediate salience, Tesla is developing and manufacturing a full power-train system, so inclusive of battery, motor, power, electronics and all the associated software systems, to make possible a new generation of the Toyota RAV4, a vehicle which is slated for introduction in the U.S. in this model year.

Perhaps the third way that we are inspiring movement within this sector is by -- is by competitive imitation. It's fair to say that the Roadster and some of Tesla's larger efforts have inspired other automakers to take on the challenge of developing their own electric vehicles. And so we are very gratified to see competition in the marketplace as exemplified by the Nissan Leaf, the Mitsubishi i-MiEV, the Ford Focus, and to a degree, in a slightly altered state, the Chevy Volt.

A little bit about the technology: First of all, the point that we like to make is that the EVs are

viable technology right now. This is exemplified in the commercial marketplace. The Tesla Roadster has been so successful, that, in fact, we've sold out of the vehicle in the U.S., and we only have a couple hundred vehicles left to sell in foreign markets. But even if one takes into account the sales of the Leaf and the Chevy Volt, as well as some of the other vehicles in the marketplace in the past year, not withstanding some of the politically inspired rhetoric that suggests that EVs have been a failure, it's notable to point out that the sales of these vehicles are roughly double the first-year sales of the first-generation Toyota Prius. Fast-forward to today when the Prius is selling over a million units a year. I think this is notable.

Cost is not a barrier. Lithium ion technology is, even today, accessible, and energy density and price points are on an impressive downslope. I'm sorry, energy density on an upslope and cost on a downslope. Thus, while we applaud EPA and NHTSA's proposal, we believe that it represents a good start, but it doesn't properly -- that it doesn't fully take into account the full potential of EV technology. And so we believe that standards could, indeed, be much higher.

The benefits of EV technology are manifest: Zero emissions at point of use. Some of the prior testaments have spoken to the national security implications of reduction of foreign oil. But too little is said of the economic benefit of a transition away from the oil monopoly and transportation, notably the fact that 300 billion a year spent on foreign oil, and this represents about half of our trade deficit. It's worth imagining what that money would do if recycled in our own economy. It's also a testament -- EV technology, as it's currently being developed, is a testament to how American innovation is driving a number of positive developments in national security and economics, but also in job creation. Tesla Motors now employs just about 2,000 folks. And as we ramp up the production, we will be increasing several hundred more in this calendar year.

Just a couple of notes about the technology -- about the provisions, and I'll conclude very rapidly. We applaud the use of inter-tradability of credits. They support very critically the rollout of first-generation technology. And second, with respect to the consideration of upstream emissions, we believe that if this were to -- number one, it's adequately covered under Title V of the Clean Air Act.

Moreover, pursuing this, this provision, could result in double counting. But in any event, if this were pursued, that we would encourage the agency to consider methodology on a well-to-wheel basis as opposed to simply stopping at the point of generation.

Thank you very much.

MR. MEDFORD: Thank you very much. Let's see, I think Mr. Patterson.

TESTIMONY BY DAVID PATTERSON

MR. PATTERSON: Good morning. I'm Dave Patterson. I'm chief engineer for Regulatory Affairs and Certification on Mitsubishi Motors R&D of America. And we appreciate the opportunity to provide public testimony on EPA and NHTSA's proposal for the national greenhouse gas and fuel economic standards for lightweight vehicles, model years 2017 through 2025.

Mitsubishi Motors applauds the efforts of the Obama administration and agency staff to follow through on their commitments to continue one national program on the federal level for these model years.

Similarly, Mitsubishi Motors is appreciative of the inclusive process that led to the publication of this NPRM. Mitsubishi Motors stands committed to continuing the development of the national program

based on technical, economic and consumer realities in the United States' light-duty automotive market. To ensure these realities are fully considered in setting fuel economy and greenhouse gas standards for these later model years included in this rulemaking, a midterm evaluation is critical to this process.

Additionally, alternative fuel availability and quality and infrastructure must be considered. Mitsubishi Motors urges the agency to work with stakeholders well in advance of the midterm evaluation to develop sound review process and framework.

Although our environmentally conscious -- excuse me. Along with our environmentally conscious industry partners, Mitsubishi Motors has recognized the need for our company to consider the environment while at the same time designing an affordable, safe vehicle that's fun to drive.

To that end, in 2009, Mitsubishi Motors developed specific corporate environmental policy commitments that is included in our Environmental Vision 2020. Those stated goals in that vision include that by the year 2020, Mitsubishi Motors will have reduced our greenhouse gas emissions by 50 percent compared to 2005. This goal also includes the sales target of 20 percent of our vehicles worldwide will be

electric drive. That includes battery, electric and plug-in hybrid vehicles.

Mitsubishi Motors' light-duty vehicle sales account for approximately 6 percent -- or .6 percent of the U.S. market. Our vehicles compete in the compact market -- compact sedan market segment of the passenger car category and the compact crossover and midsized segments of light-duty truck category, some of the most price-competitive market segments. As a company with more limited resources than others in the U.S. market, adding advanced technologies to all of those vehicles simultaneously is not feasible or practical. But like many of the large vehicle manufacturers, incorporating advanced technologies into our ICE vehicles and concentrating on the introduction of electric vehicles, these are the areas that we will be leaders and pioneers. Our EV research and development started in the late 1960s, and the first EV was developed in 1971. Through the '80s, we developed a series of EVs based on lead acid batteries. And in the mid 1990s, we developed lithium ion battery technology in our EVs.

Mitsubishi Motors continued that investment in EV technology and battery research that led to the global launch in 2009 of the i-MiEV, Mitsubishi's innovative electric vehicle, our award-winning battery

electric vehicle.

In the United States, the i-MiEV was unveiled at the Los Angeles auto show in November of 2010. The i-MiEV is an OEM quality vehicle with a lithium ion battery pack, 16-kilowatt hours. It seats four, and has a maximum speed of 80 miles an hour and a driving range of 62 miles.

Mitsubishi Motors is also honored to be the top of EPA's list of fuel economy leaders for the 2012 model year with this vehicle that has 112 miles mile-per-gallon equivalent.

But important to all of this is the charging infrastructure. That availability is the key to the customer's decision to purchase an EV. In 2009, Mitsubishi Motors became a founding member of the CHAdeMO Association, a private industry association that aims to increase the EV infrastructure worldwide and to internationally standardize the CHAdeMO protocol for DC quick charging of electric vehicles.

To date, there's a handful of these public chargers here in the United States, specifically in California. Please note: We believe that most charging is going to be done in the home or in the workplace, but public charging infrastructure is going to be key to the success of these vehicles.

Automotive OEMs have little control over the source of electricity. Therefore, like was said before, they should not be subject to arbitrary emissions regulations on electric vehicles. These need to be accounted for in separate regulations of those regulated industries. And in absence of comprehensive national energy policy, Mitsubishi Motors recognizes the challenges and the associated risks of developing practical federal and fuel economy and greenhouse gas standards for light-duty vehicles. Mitsubishi Motors believes continued inclusive process to develop fuel economy and greenhouse gas standards is a realistic goal.

As stated before, we look forward in working with the agencies to finalize this rulemaking, and we stand committed to comply with one national standard. Moreover, we stand committed to our community, environment and, most importantly, our customers. Thank you.

MR. MEDFORD: Thank you.

Lacey Plache.

TESTIMONY BY LACEY PLACHE

MS. PLACHE: Hi, good morning. Good afternoon, I guess it is now. My name is Lacey Plache,

and I am the chief economist for Edmunds.com, the leading automotive information website for consumers. I'm here today to testify on Edmunds' assessment of the positives and negatives for consumers of the latest proposed CAFE standards for 2017 to 2025.

I'd like to first note that the Edmunds.com agrees with the motivation behind the proposed CAFE standards; that is, we agree it is necessary for the government to intervene in the market in order to significantly reduce vehicle emissions and increase reliance on foreign oil. We have been closely following the CAFE rulemaking process, and we feel this process needs to better incorporate the consumer point of view.

Many parties involved in the CAFE process have asserted why the proposed rules should make sense for consumers, why consumers should embrace these rules, how consumers should benefit from these rules, despite higher vehicle prices, and so on. The problem is that while they purport to represent consumers, these parties typically do not represent consumers. In our view, it's better to go straight to the source, rather than to presume to know what is best for a particular group.

So we appreciate the opportunity that these

hearings offer to provide our perspective on how consumers could respond to the proposed standards. Edmunds.com is in a unique position to offer a genuine consumer perspective because we track shopping behavior by some 18 million unique consumers who visit our site each month, many of whom are in the market for a vehicle. We also track transactions. This information allows us to offer insight on how consumers make decisions, based on real data about the decisions they make in the marketplace. Our shopping behavior analytics and our models of vehicle purchases throughout the U.S. market illuminate contradictions in what the experts say consumers should want to buy versus what they actually do buy, including with respect to fuel economy.

So based on our understanding of consumer decision-making with respect to the vehicle purchases, here are three key ways in which we see the proposed standards affecting consumers.

First of all, the improved fuel economy results for the proposed CAFE standards for 2017 to 2025 are based on production forecasts and do not account for how consumer demand for and willingness to pay for fuel economy will keep pace with the more fuel-efficient fleet built. To date, consumers have

demonstrated relatively little preference for high-mileage vehicles, and then usually just for brief periods during high gas prices. If reality differs significantly from key assumptions used in these forecasts, for example, if gas prices drop and consumer demand for fuel efficiency then decreases, a disconnect could arise between what consumers want and what automakers supply under the proposed standard. This has the potential to result in more limited choice, higher prices, and decreased auto sales.

Our second point is that, by their nature, the proposed CAFE standards force automakers to focus their efforts on improving fuel economy. This dictates the nature of competition. Automakers focus on fuel economy rather than letting consumer preferences determine on what basis they compete. This focus on fuel economy for all automakers limits competition in other dimensions, such as safety, comfort, performance, design and electronics. In fact, the focus on fuel economy could limit the innovation of these other features, especially for automakers that have fewer resources or that need to work relatively harder to meet their fuel economy target. Moreover, the proposed rules have the potential to limit innovation of fuel economy itself by offering favored status to certain

technologies via special credits, which could then deter automakers from developing other technologies.

Decreased competition or innovation of any features, including fuel economy, poses the risk that vehicles will be less differentiated, and thus offer decreased utility to certain consumers, especially those who strongly value the affected features. This could decrease new car sales, if consumers are less motivated to replace their cars as frequently and/or if consumers turn to used cars. Given the sizable contribution of auto sales to the U.S. economy, any slowdown in auto sales has the potential to generate significant adverse effects in other parts of the economy as well.

Our third point is that the multiple measures of MPG that have emerged from the rulemaking process add excessive complexity to the consumer decision-making process, making it harder, not easier, for consumers to assess fuel economy, compare vehicles, and decide which vehicle works best for them.

To address these issues, we would make the following changes to the proposed standards:

First, the current proposal needs to address the potential consequences of mandated increased focus on fuel economy for competition and innovation in the

automotive industry. The proposed rules need to more fully explore how such consequences could force consumers to make sacrifices to get the desired emissions results.

Secondly, the current proposal needs to demonstrate a fuller understanding of consumer demand for vehicles and how adding higher prices, decreased innovation and choice, and excessively complex information could affect consumer decision-making on new vehicle purchases and potentially result in lower auto sales.

We encourage the EPA and NHTSA to consider these issues, and we are happy to answer any questions that you have. Thank you, again, for the opportunity to testify.

MR. MEDFORD: Thank you very much.

Linda Weiner.

MS. WEINER: Good morning, welcome to San Francisco.

MR. MEDFORD: Thank you.

TESTIMONY BY LINDA WEINER

MS. WEINER: My name is Linda Weiner, and I'm representing myself as a concerned citizen; although, as way of background, I am on the executive committee

of the San Francisco Sierra Club and was a former director of the Air Quality Advocacy for the American Lung Association in California. And I'm here today to support proposed standards and grateful to EPA and NHTSA for putting this forth.

There are many credible reasons to support these standards, and I'm sure you've heard all of them. You'll hear more today. The scale of benefits far outweighs any opposition: Reducing reliance on foreign oil, saving American families thousands of dollars in gas, cutting pollution, creating jobs and revitalizing the American auto industry as an engine of economic growth and innovation, as you heard. Clearly, in California, we are one of the leaders in the United States of innovation and investment in energy-efficient cars.

I want to focus my few minutes on other critical benefits: Health impacts, carbon pollution reductions, and the possible weakening of the standards.

As for health impacts, when we talk about cutting pollution, we're also talking about decreasing the costly negative health impacts from this pollution, and in many cases hitting low-income communities, communities of color. In plain words, this means less

people will become sick. And having previously worked for the American Lung Association, I can attest to the national and international studies that show the direct connection between tailpipe pollution and disease: Asthma, lung cancer, heart disease and bronchitis. And again, hurting those communities that can least afford it. The less gas we use, the less pollution, the less health impacts, the less strain on the health system.

In relation to carbon pollution, the reduction of carbon pollution by implementing these standards, as you well understand, is another significant benefit. Cutting carbon pollution by 2 billion metric tons is equivalent to the annual emissions from 474 coal-fired power plants. And as I'm sure you are aware, coal-fired power plants are very high makers of carbon pollution. This is a considerable reduction of a dangerous greenhouse gas. The reality, as we know, is that global efforts in reducing climate change have been slow. But as you also know, there's a bright spot in California with the Global Solutions Act of 2006. And that's why we're so glad that this has come out, in addition to other reasons, that it will give California a larger pool of cleaner cars from which to choose.

I also want to emphasize the importance of

not weakening these standards. We certainly express gratitude for the automakers in helping develop and support these standards. But looking at the background in terms of historical context, it has occasionally happened that automakers have opposed technologies and innovation, going back to catalytic converters, seat belts, air bags, there has been opposition. So we ask that the midterm review be vigilant, and there should not be an opportunity to delay full compliance or, as has occurred occasionally in history, to dismiss part of the program. But we look at the mid-reviews to strengthen the compliance.

Additionally, in the early years of the proposed standards, pickup trucks are not required to improve with the same rate as passenger cars, but there are incentives for manufacturers to apply advanced technologies to pickup trucks. So it's critical that the efficiency of the trucks not lag behind cars. And equally important, the cap on electric vehicles should be strong so automakers cannot produce less efficient vehicles in other parts of their fleet yet still meet overall standard. Not that it would happen, but we want to make sure that no one games the system. In other words, it's important that the auto -- it's also significant, I'm sorry, that agencies develop new,

precise test procedures that actively calculate the true mileage and not an overestimation, as has happened before.

In closing, I would just say that we shouldn't let opposition dilute the many and clear benefits to these proposed standards, benefits to the country and to the residents. And at the risk of sounding cliche, I would say probably one of the most important things is that we need a political will in Washington to sustain these efforts. Thank you.

MR. MEDFORD: Thank you very much.

Mr. John Laitner.

TESTIMONY BY JOHN A. "SKIP" LAITNER

MR. LAITNER: Good afternoon. My name is John A. "Skip" Laitner. I'm director of the economic social analysis program for the American Council for an Energy-Efficient Economy, a nonprofit organization that acts as a catalyst to advance energy efficiency policies, programs, technologies, investments and behaviors. And on behalf of ACEEE, I'm here to actively support the role of productive investments in more energy-efficient technologies as they might positively improve the robustness of the U.S. economy. In particular, we applaud the U.S. Environmental

Protection Agency, the National Highway Traffic Safety Administration, the administration more generally, and the State of California for taking steps that will improve the fuel economy of our nation's light-duty vehicles.

On a personal note, I want to commend the quality of the work and the stamina and good humor you've all shown throughout this difficult process in a fairly dynamic and incredible way. Thank you.

We concur with the agencies' assessment that in order to thrive in the global automotive market, domestic manufacturers will need to invest consistently in technologies to improve fuel efficiency. We believe that the standards now proposed can help achieve that outcome. And in our testimony, we make three points:

First, that there is a huge potential for cost-effective investments in energy efficiency improvements across all sectors of the economy.

Second, fuel economy standards are a critical first step in capturing the full economic potential.

And third, promoting these standards will be good for jobs, even as the fuel economy improvements will save household consumers and businesses money that almost immediately will be respent in the broader economy.

So what is that potential for cost-effective efficiency improvements? In a report we released two weeks ago titled, The Long-Term Energy Efficiency Potential; What the Evidence Suggests, we show that by investing in greater levels of energy productivity, we can slash the nation's energy use by 40 to 60 percent by the year 2050 as we create nearly 2 million more jobs and save the equivalent of $2600 per household annually across all sectors of the economy.

How do fuel standards then become a critical step in that economic performance? Anytime we can promote cost-effective alternatives to the current pattern of technologies and services, the productivity of the economy is improved. And the evidence here suggests that improved fuel economy provides a significantly improved alternative to the purchase of gasoline. Drawing on data from EPA/NHTSA, we estimate that in constant 2009 dollars that efficiency might cost on the order of 50 cents to $1.20 per gallon of gasoline equivalent compared to the 4, 5 or 6 dollars per gallon of gasoline we may have to pay in the year 2025.

But more importantly, by redirecting the investment in fuel efficiency savings into other sectors of the economy, we support the increased number

of jobs. How might that be? Tapping into the evidence, the economic accounts for the U.S. turns out that, directly and indirectly, the total jobs supported by a million dollars of the purchase of gasoline sales supports only 11 jobs per million dollars. But the sale and manufacturing of automobiles, 17 jobs, and in the economy as a whole, 17 to 18 jobs. So anytime we cost-effectively redirect resources away from gasoline purchases into those sectors, we support a net gain of six to seven jobs. Using that logic but in a more sophisticated modeling exercise, we estimate these standards will provide, on average over the period 2017 to 2025, about 300- to 400,000 jobs for the larger economy.

We're going to update those in about a month, but, in effect, the evidence shows that efficiency and improved fuel economy provides more jobs per gallon equivalent. At the same time, this kind of savings will put a downward pressure on the price of all petroleum products. If that holds, then fuel economy standards might generate, we estimate, an additional $25 billion in price-related fuel savings. That means even if you're not driving a new car, but if you're heating your home with fuel oil, or if you're using petroleum as a chemical feed stock, or if you're flying

from San Francisco to Washington, D.C., you're benefiting from a lower price of oil or gasoline, and that benefits everyone.

One important question, clearly: What will the higher cost per vehicle do to car sales? This effect can be challenging to predict. But recent evidence from new polls and industry trends suggest a growing demand for fuel economy by consumers. And there, moreover, appears to be a strong link between consumer confidence and the purchase of new cars. So by enacting the proposed standards, EPA and NHTSA could positively influence consumer confidence, pushing it up, and by ensuring that we are moving in a positive direction with our energy use, they are likely to stimulate consumer spending in highly positive ways which, in turn, would result in greater gains from the proposed fuel economy standards. And equally critical, that would drive the positive job and other financial benefits to the U.S. economy.

Equally interesting, there's a growing consensus around the idea that consumers place some value on fuel economy in ways it did not previously. And there's some evidence that the market is, indeed, moving in that direction. For example, a new survey by Deloitte indicates there's evidence of an early

consumer shift in preferences as the 80 million adults in Generation Y population -- those between 19 and 31 years of age -- will be, quote, the generation that leads us away from traditional gasoline-powered vehicles. They tend to focus on total cost, not just the first cost -- price of a new car.

So in sum, the rule, we think, will drive further gains in gasoline vehicles and begin to pull advanced technologies into the market. Cost-effective investments in more fuel-efficient vehicles resulting from this rule should accelerate and optimize benefits, whether jobs, cleaner air and a more robust economy, especially when we take recent consumer interest in fuel economy into account.

With that, we thank you very much. Happy to answer questions, as helpful.

MR. MEDFORD: Thank you very much.

Mr. Simon Mui.

TESTIMONY BY SIMON MUI

MR. MUI: Good afternoon. It's an honor and pleasure to be here and testify before you today. My name is Simon Mui, and I'm a scientist working for Natural Resources Defense Council on clean vehicles and fuels. I'm pleased to be here on behalf of NRDC's

1.3 million members and activists, 250,000 of whom are Californians and most of whom drive cars.

The proposed standards are a giant step forward. The standards are good for the environment, for consumers, for our economy. The standards are shown to save our economy half a trillion dollars in fuel savings from 2017 to 2030. That's $500 billion. That's half a trillion that doesn't go overseas to pad the profits of OPEC, other oil-exporting countries and the oil industry. We can invest and we will invest that half a trillion back into our economy and create almost 500,000 new jobs with it, while cutting carbon pollution by the equivalent of 76 coal-powered plants.

And consumers win under the proposed standards with increased choices of fuel-efficient products that will save them, on average, $4400 over the life of their vehicles. Importantly, for most consumers that finance their vehicles, the net savings will be brought home immediately from the fuel savings. The fuel savings are partly why an overwhelming, 80 percent -- 80 percent of consumers have expressed their support for these standards in independent surveys in California as well as nationally.

These overwhelming environmental energy and economic benefits are why the standards have resulted

in very broad support for these. And you've heard a lot of testimony today showing that broad support almost across the entire auto industry, prominent Republicans as well as Democrats, consumer advocacy groups, national security groups, economists, business leaders, the United Auto Workers, individual dealers and environmental organizations.

Unfortunately, we're now hearing from the National Automobile Dealers Association, NADA, which appears to be the lone group still opposing and asking to delay these standards. We are also aware that NADA at both the Detroit hearing, as well as other auto shows and in the media, continues to reference an extremely high unsubstantiated cost number. The only thing we are able to confirm about NADA's estimate is that there's no study available from them and that not a single, independent peer-reviewed study supports NADA's cost claims.

And in my testimony, I have a graph that shows NADA's estimates versus every other estimate we were able to find that's peer-reviewed and independent. NRDC has performed a review of this literature, and its cost claims, it turns out, are two times higher than any of the available studies, including ones conducted by the National Academy of Science, the Massachusetts

Institute of Technology, the University of Michigan, consulting groups such as Boston Consulting Group, in addition to the studies conducted by the agencies.

NADA has the right to express their concerns, but they need to get the facts right on the benefits and costs of this program. We hope NADA can turn the page and join in partnership with everyone to support this standard instead of trying to throw out unsubstantiated cost claims.

And those that have turned the page are reaping the rewards. Here in California, these standards are helping to attract investments and create jobs in our state. Over the past two years, California companies developing hybrid and plug-in electric vehicle technologies and components attracted over 60 percent of the entire global venture capital investment. That's $1.3 billion in this space. That's 60 percent of the entire global venture capital investment. These standards are helping put the bright minds of California's and also America's best scientists, their engineers and entrepreneurs to work and encouraging high-tech technologies to lay down their roots here.

And across the U.S., the story is similar. A recent report from the investor group, Ceres, estimates

that the proposed standards would generate nearly half a million jobs across the country with California gaining nearly 60,000 jobs. In the report, Supplying Ingenuity, that NRDC conducted with the United Auto Workers and the National Wildlife Federation, we found that over 150,000 workers currently employed in 300 automotive supply companies currently are making fuel-efficient technologies.

In conclusion, these standards will result in half a trillion being invested here in the U.S. It will promote innovation, jobs, protect the environment, and help consumers save. The agency should forge ahead and keep the model year 2017 to 2025 standards strong and make them final this summer.

Thank you for your attention and your hard work on this.

MR. MEDFORD: Thank you very much.

Lance Tunick.

TESTIMONY BY LANCE TUNICK

MR. TUNICK: Hello. My name is Lance Tunick, and I'm here on behalf of Aston Martin, Lotus and McLaren. Each of these companies is a very small-volume manufacturer and produces a very limited number of high-performance cars. We all fully support

the EPA and NHTSA proposal.

We present here the viewpoint of small-volume manufacturers, specifically as regards EPA's proposal to establish 2017 to '25 GHG standards. All three manufacturers understand the need to control CO2 and we support the regulatory efforts of EPA. The three companies further believe that small, even small-volume manufacturers must do their fair share to reduce GHG. By "fair share," we mean things like the development and use of lightweight materials, such as carbon fiber, aerodynamics, advanced transmissions, hybrids, gasoline direct injection, engine downsizing and turbocharging.

EPA has correctly explained the circumstances facing the small-volume manufacturer. Number one, SVM's only produce a few vehicle models and, thus, they have limited product lines across which to average. Number two, incorporating new technologies into vehicle design costs the same or more to small-volume manufacturers, yet the costs are spread over significantly smaller volumes.

We also agree with the reasoning behind EPA's proposed small-volume manufacturer policy. Number one, it is important to establish standards that will require SVMs to continue to innovate to reduce GHG emissions. And number two, most significantly, EPA

considered a variety of approaches and believes that a case-by-case approach for establishing SVM standards is appropriate. We agree.

We urge EPA to promulgate the proposed mechanism that would set small-volume manufacturer GHG standards on an SVM-by-SVM basis. Adopting the case-by-case mechanism would align EPA with NHTSA under the CAFE law, the European Union and with CARB, thus furthering the desirable objective of harmonization.

The proposed case-by-case SVM mechanism is fair and equitable and meets the important goal of reducing GHG. The SVM provisions should be promulgated by EPA, as proposed, with an optional early opt-in starting in model year 2015. Thank you.

MR. MEDFORD: Thank you. Thanks to all the panelists. And do my colleagues have questions or comments?

MS. OGE: I do. I have a question for -- is it Miss Lacey Plache?

MS. PLANCH: Planch.

MS. OGE: Thank you for your testimony. Let me ask you a question.

You stated for the record that Edmunds.com understands the consumer; is that accurate?

A. Yes.

Q. So can you explain to me, does Edmunds.com know better what the consumer wants than the 13 car companies, some of them represented in this panel, that agree with your overall proposal?

A. So what we're saying is that we have data from consumers based on the purchase that they make where we see what types of features they select and what types of preferences they put on the different features. And what we find is that fuel economy is not typically ranked at the highest.

Q. I understand that. My question was specifically: Do you know better than the OEMs where they need to invest and the attributes that they believe the consumers want than them? Simple question.

A. Well, I think that the OEMs have a select group of information on consumers. They certainly know who is buying their cars and what features are being purchased. They don't see the entire market in the way that we do, because they are each individually looking at their own consumers. But certainly, I would not -- certainly, I would agree that they have insight into consumers as well.

Q. So my question is: Does Edmunds.com have information that the OEMs do not have? Because the OEMs, 90 percent of the market, companies that sell

vehicles in the U.S., agree with the overall proposal. So do they lack data that you have that would make them take a different position on the standards?

A. Yes. Well --

Q. They do?

A. -- I don't know all the data that they have. But what we have is we have data on consumer shopping patterns that we collect from our own website. And this is not data that the OEMs have. This is our data. And we see what consumers are shopping for, what they are configuring.

We also have transaction data that, you know, we've gathered from dealers throughout the U.S. marketplace. So in that sense, we do have, you know, a wider array of data than might be available to individual OEMs.

Q. So you're saying, for the record, that the OEMs that have agreed to support this program, that they are going to invest billions of dollars in providing these advanced technologies, they are making a mistake because they don't have the sufficient data, and you know better than them?

A. I think what we are saying is that there are things to be considered. And certainly --

Q. There are things to be considered? Such as?

Can you explain?

A. Such as how consumer demand -- you know, what kind of features consumers demand and what the impact might be of investing in fuel economy first and foremost without consideration what might happen to other features along the way.

And given that consumers have a high preference for these other features, this is just something we need to take into consideration when considering these rules. Because, certainly, in the current moment, automakers have been very successful in combining achievements or advances in fuel economy with advances in technology, in comfort, performance. But at some point, there may be, you know, as we move up the curve, and higher and higher demands on fuel-economy improvements are required, it may come to the point where there are tradeoffs between which types of features get the research dollars. And I think that, you know, this is just something to take into account.

Q. Okay. Let me ask you: Have you read the regulation, the proposal?

A. Yes, I have.

Q. Is there anything in the proposal that would make you suggest, for the record, that safety or other

attributes of vehicles would be sacrificed?

A. No. My point is that they are not considered to the extent the innovation in the competition for these features could be more considered in the proposal.

And I understand that safety is considered in the proposal. But I'm just saying: What about innovation, and what about competition? You know, automakers, to date, have a wide range of differentiated products, and the way they differentiate these products are by focusing on different features.

So if we take the market in a direction where we're saying: Okay, the main feature that we'll be focused on is fuel economy, first of all, what happens to the ability of automakers who haven't been the leaders in fuel economy to compete? If they can no longer put the investment that they did into, say, electronics or performance because they are now putting those investment dollars into fuel economy, how does that impact the marketplace? Does that decrease competition?

And the same thing with innovation. Automakers operate under a limited budget. And at some point, there will be a constraint on where they can throw those dollars and what types of innovation --

MS. OGE: Let me make one more statement.

We have had the consumer groups, the actual consumer groups supporting this proposal. And for the record, you're saying you're a consumer group. Just for the record, your own website said you're paid by automakers and dealers, just for the record.

Thank you. No more questions.

MR. MEDFORD: Mr. Laitner, you testified about some economic modeling work that you conducted.

MR. LAITNER: I'm having trouble hearing.

MR. MEDFORD: I'm asking you about the economic modeling information that you provided, which I think is interesting and valuable to us. You also indicated you intend to update it in a month or so. Will you be providing that as a part of your organization's formal response to the proposal for our benefit?

MR. LAITNER: We'd very much like to do that, yes.

MR. MEDFORD: Thank you very much. Anybody else have any questions? Okay, that's it. Thank you, everyone, for coming.

(Whereupon the proceedings were adjourned for lunch at 12:41 p.m.)

JANUARY 24, 2012 AFTERNOON SESSION 1:17 P.M.

MS. OGE: We're ready to start with the fourth panel. We will start with Mr. John Walker. Good afternoon.

TESTIMONY OF JOHN WALKER

MR. WALKER: Good afternoon. I appreciate the opportunity to testify today at today's public hearings.

By way of introduction, my name is John Walker. I'm the vice president of sales, North America, for Tesla Motors. In this role, I'm responsible for all vehicle sales issues in the United States and Canada. As my colleague, Dairmuid O'Connell, has already testified, Tesla Motors's mission is to bring high-performance, highly capable electric vehicles to the market at ever-decreasing price points. We have developed a premium product line that demonstrates to consumers that electric vehicles can be exciting, fun to drive, practical, versatile and with the driving range that meets all their driving needs.

Recently there has been concern expressed about consumer demand for electric vehicles, stories in the press that mention the lack of demand and question the commercial viability of these vehicles. While I cannot speak directly to the experience of other

companies, I can tell you about our experience, an experience that demonstrates not only a robust demand for our vehicles but demand that, in our opinion, is only increasing.

First and foremost, I'd like to tell you a little more about our retail strategy. We are not a traditional automobile manufacturer that relies on independent dealers to sell our products. Instead, Tesla owns and operates 100 percent of our retail locations and sales galleries throughout the United States and Canada. This is a way to ensure a positive experience for all our customers by enabling a direct communication to the corporate organization through our store employees. When they speak to someone in our stores, they are talking to Tesla. With a core of 10 established stores in the U.S., we recently began opening what we call New Design Stores last April. These New Design Stores, modeled after other successful Silicon Valley operations like Apple, encourage customers to learn about Tesla EV technology in general, and Tesla products in particular. This model promotes an interactive experience in the environment that not only allows customers to learn about Tesla, but to learn about EV technology generally.

Based on this concept, we are seeing

significant traffic on a day-in-and-day-out basis throughout our stores and sales galleries.

We are expanding our brand and securing advance reservations for our next vehicle, what we call a Model S, a premium high-performance, all-electric sedan capable of up to 300 miles of range and the capacity to seat five adults and two children.

We have sold out of our first groundbreaking car, the Tesla Roadster, in North America. In fact, we produced a limited edition of 80 cars during 2011 in part to satisfy excess market demand. The Roadster Tesla is a two-seat, all-electric sports car with a zero to 60 acceleration time of 3.7 seconds and up to a range of 245 miles on one single charge.

Demand for our Roadster has been robust from our introduction in 2008 to end of program in the United States in 2011. In fact, we have sold over 2100 Roadsters throughout the world, exporting our Roadster to over 30 countries. In fact, many have questioned why we discontinued our program. Even today, we are getting a lot of inquiries from the market, customers wanting to buy this vehicle, even though we are no longer producing for the U.S. market. Simply put, the Roadster was really always a limited production run, and we are ready now to move to our next vehicle and vehicles. The

Roadster was proof that an exciting and uncompromising EV was both possible and fun to drive.

With the Model S, we are now optimizing the vehicle around our all-electric power train and moving up to the next level. We plan deliveries on the Model S no later than July of this year.

The demand for the Model S is very strong, ahead of expected release. To break it down into a little more detail, our advance reservation numbers are large and are growing. These reservations, please note, are fully refundable, and each carries a minimum of a $5,000 payment to reserve a spot in line for the Model S. As of the end of last year, 2011, we have booked over 8,000 Model S reservations. That equates to our production of 2012 and well into the production of 2013, Quarter 1. It is interesting to note that even before -- basically none of our reservations owners have actually driven the car yet. So that's quite interesting to know we have received a substantial amount of reservations, in our opinion.

In addition, these reservations have continued to increase over each quarter. During Quarter 4, we reserved over 1500 new reservations, and that was an appreciable increase over the 1150 reservations bought in the third quarter.

As we continue to roll out more information, we announced the options weeks ago, our reservations actually increased. The Model S Signature will be a premium version of the Model S with a 300 range and a full panoply of options and features. In fact, the model was so high from the Model S signature series, that often we sold out, we have had to start a waiting list.

In addition, we have opened five new of our New Design Stores and one gallery in the United States during 2011. Four actually opened in Quarter 4. These five New Design Stores and one gallery in December alone had over 299,000 customers in the month of December alone. That's quite a considerable number in our opinion, 299,000. This incredible traffic shows our vehicles have a broad appeal.

Our story doesn't end there. We plan on moving forward with our New Design Stores in 2012. We have nine locations, including Los Angeles, Miami and New York to name a few.

In conclusion, we believe that the demand has not only been high, but it's been growing and it continues to grow. Thank you very much.

MS. OGE: Thank you.

Professor Sudip -- I'll let you pronounce

your last name for the record.

TESTIMONY BY SUDIP CHATTOPADHYAY

MR. CHATTOPADHYAY: Chattopadhyay.

Thank you for giving me the opportunity to testify for the proposed CAFE standard. My name is Sudip Chattopadhyay. I'm a professor and chair of the economics department at San Francisco State University. I also represent the Union of Concerned Scientists today. And we signed on -- I'm one of the economists who signed on the 2011 economist letter on clean car standards and oil dependence. In that letter we urged the Obama administration and California officials to set strong global warming and fuel efficiency standards for new cars and light trucks through 2025. The letter can be found on the website of Union of Concerned Scientists. As an economist, I believe that this is a groundbreaking initiative in transforming the American society towards energy independence.

Pushing the frontiers of technology through innovation is in the fabric of American economic prosperity, and there's no better time than now to steer our auto industry in that direction. When 2.6 billion people in China and India are entering a phase of economic prosperity, global oil demand will continue to

rise, and so will oil price. This will severely hurt our economic well-being unless our addiction to oil is contained.

The 54.5-miles-per-gallon standard by 2025 will be a game changer for the American auto industry. Foreign car companies are already investing in new technologies for the next generation of fuel-efficient cars. We have the know-how and we can do it.

The proposed policy is a no-risk investment in the technology of the future and will make the American auto industry globally competitive, help it regain the position of leadership, bring new manufacturing jobs to the country, reduce dangerous dependence on foreign oil, and promise our current and future generations hope, prosperity and an environmentally sustainable future.

Thank you.

MS. OGE: Thank you.

Mr. Paul Gillespie. Good afternoon.

TESTIMONY BY PAUL GILLESPIE

MR. GILLESPIE: Thank you very much and thank you for coming to San Francisco and welcome to San Francisco. I hope by the time that you're here, you'll get a chance to ride in a hybrid taxi.

My name is Paul Gillespie. I'm the former

president of the San Francisco Taxi Commission and the founder of lowcarbontaxis.org, which is just founded this month, actually, to become a national/international advocacy group for the adoption of low-carbon vehicles in the national/international private for-hire vehicle fleets.

I have a statement that I'm going to submit, but I'd like to speak to you sort of off the cuff about some of our practical experiences in the last 10 years and being really on the front lines of adopting clean vehicles in America.

We were the first city in America to adopt a really large fleet of natural-gas vehicles, starting in 1999. We're the first city in America to adopt a fleet of hybrid taxis, starting -- we had our first hybrid taxi in 2003 and our first fleet in 2004. About the week after the Ford Escape hybrid went on sale, we were using it as a taxi in San Francisco.

I'm sure we made a lot of people in Dearborn and Toyota nervous, by the way, by our early adoption of hybrid vehicles because we really put these vehicles through their paces. And I have to say I believe that this is a great American industrial success story that we've had out here in San Francisco in our taxi fleets. Most of our vehicles have lasted over 300,000 miles,

Ford, Toyota and a lot of the other manufacturers have learned a tremendous amount about how to build an electrified vehicle, the kind of wear and tear that goes on in San Francisco.

But I'd like to get back to something that I did as a taxi commissioner in 2007, which was to write a resolution to reduce, offset and eliminate greenhouse gases in the San Francisco taxi fleet. At that time, it was a pretty audacious goal. It was very difficult for me to even find people who even knew how to measure carbon, much less to give me any kind of advice about how I, as a taxi commissioner, would write a law to go about it.

In the end, we were able to find real consensus in our industry to work together with the industry, with the drivers and the city, to write a law that required a 20 percent reduction in greenhouse gas emissions below 1990 levels by 2012. Extremely good news that we're going to announce in about two weeks with the mayor and lieutenant governor is that we have met the goal of this legislation, not only met it, but exceeded it a year early. We have cut our greenhouse gas emissions in the San Francisco taxi fleet from about 110,000 tons per year to about 50,000 tons per year in three years. We put thousands of dollars in the pockets

of really hard-working, working-class people, who I think have become probably the greatest ambassadors of hybrid and electrified technology in America.

If you really look at it, between the thousands of hybrids in the San Francisco taxi fleet and 4,000 or 5,000 in the New York taxi fleet, probably more people have had their first experience in a hybrid vehicle in a taxi than anywhere else. So we're really proud of that, being on the front lines of this in the last 10 years.

I think this proposed rule is just really a great idea. It's going to continue to provide us with a variety of vehicles to use. And I look forward to the San Francisco fleet continuing to be on the front lines of really testing and proving that, not only is it feasible, but it's really the right thing to do.

And so thank you, again, for being here today. And I hope we'll get a chance to ride in a hybrid cab when you're here.

MS. OGE: I think I did coming from the airport, coming here on a hybrid taxi. So thank you.

Mr. Mark Gruberg, good afternoon.

TESTIMONY OF MARK GRUBERG

MR. GRUBERG: Thank you. Thank you for

holding this hearing and inviting me.

I am a manager at Green Cab of San Francisco. We are a small, but growing cab company utilizing a fleet of hybrid vehicles.

And just let me say for starters, I've been here listening to this testimony, and the degree of consensus on a subject as complex as this should really be an object lesson for some of our political leaders to show us that these kind of things can be done.

Our company started off dedicated to being an environmentally responsible taxi service company. We began in 2007 even before San Francisco's clean-air taxi rules went into effect, and we have been a pioneer in this area in the fact that all of your regular fleet are hybrid cabs, and we also voluntarily purchase carbon credits to reduce our net carbon emissions to zero. And we want and plan to stay a step ahead of an industry that is already far ahead of most any other place in the country.

And to do that, we need the vehicles. Give us the vehicles, and we will employ them. There are some practical problems at this point with the use of electric vehicles, and plug-ins as taxis, questions of range and questions of charging time. So we hope to see advances in those areas. And in the meantime, we will

continue to use the hybrids. And as the standards go up, we expect that the rising tide will raise the standards for hybrids as well, and we will be able to perform more efficient and economical taxi service.

This is a tremendous boon to the drivers. In San Francisco, as almost everywhere in this country, taxi drivers pay for gasoline out of their own pockets. And the fact that we're able to use the hybrids has been a tremendous savings to a low-income population. And you can expand and extrapolate from that. These savings are going to have a ripple effect through the economy. There's no question there will be more money in people's pockets to do other things. So there are many good reasons to go ahead with this, and we applaud the initiative and are eager to see it put forward.

And then just let me say on a personal note. I live in the city of Richmond, across the Bay, very close to a Chevron refinery. And I understand that we need these facilities, and we're going to have them for a long while. And I don't want to denigrate Chevron's efforts to run a safe and health-conscious facility. But to the extent that we can reduce the role of these kinds of facilities in our society, we will improve our communities and the health and quality of life of those who live in them. So thank you very much.

MS. OGE: Thank you.

Mr. Don Anair.

TESTIMONY BY DON ANAIR

MR. ANAIR: Good afternoon, thank you.

My name is Don Anair. I'm here today on behalf of the Union of Concerned Scientists and our more than 350,000 supporters.

UCS strongly supports the model year 2017 through 2025 standards for greenhouse and fuel economy, and applauds the work of the U.S. EPA, NHTSA, and the California Air Resources Board for their collaboration and the development of these standards. We also greatly appreciate the multiple opportunities that the agencies have provided for public input, including the hearing today. We also applaud the agencies for their transparency and their reliance on independent technical analysis in developing the standards. UCS urges the agencies to finalize strong vehicle standards that will deliver the expected benefits to consumers, our nation's energy security and our environment.

Based on UCS's own analysis, we estimate these standards would reduce global warming pollution by as much as 290 million metric tons in 2030, equivalent to shutting down 62 coal-fired power plants in that year.

The proposed standards will also deliver significant reductions in U.S. oil consumption by as much as 1.5 million barrels per day in 2030. That's equivalent to the 2010 U.S. imports from Saudi Arabia and Iraq combined.

These reductions in greenhouse gas emissions and oil consumption from the proposed standards and those previously adopted for 2012 through 2016 represent the most significant step the federal government has taken to address our oil dependence and the threat of climate change.

Automakers have the technology to make all new light-duty vehicles cleaner and more fuel efficient. Conventional improvements, such as more efficient engines, smarter transmissions, better materials, can deliver significant fuel efficiency improvements and greenhouse gas emission reductions throughout the fleet. In addition, the expanded use of hybrid electric drive trains will deliver even greater gains. By 2025, Americans will continue to have a wide choice of vehicles that offer the same or better utility and safety as those offered today but will spend less at the gas pump.

To achieve our long-term climate energy goals, however, we need to move beyond vehicles powered by

petroleum. Climate change is the most serious long-term environmental threat facing our nation and the world. Climate science tells us we must cut global warming emissions at least 80 percent by mid-century to help avoid the worst consequences of global warming.

Advanced technologies, such as plug-in hybrids, battery electric and fuel-cell vehicles have the potential to achieve zero or near-zero emissions and are expected to become available to consumers over the time period of the proposed standards.

But the standards themselves alone are not sufficient to propel these technologies from the small market that they currently have today to the mass market success that they must become over the next four years in order to meet our long-term public health and climate change goals.

This is why policies like California's Zero-Emission Vehicle program are an important complement to the proposed greenhouse gas and fuel economy standards being discussed here today. The Zero-Emission Vehicle program helps ensure that investments in research, development and deployment of advanced vehicle technologies continue.

UCS applauds the agencies for proposing standards that represent historic progress. For the

standards to deliver the benefits, as promised, we ask the agencies to address key areas to ensure the integrity of the program, including preventing the erosion of benefits to the possible shifts from cars to trucks. For example, under scenarios examined by the Air Resources Board, the overall program benefits to California could be reduced as much as 16 percent as a result of vehicle footprint increase, size increase, as well as larger percentage of truck sales than anticipated. Certain vehicle types, in particular, the crossover vehicle segment, present an opportunity for gaming unless appropriate protections are put in place. We thank the agencies for developing these proposals and urge the finalization of strong standards.

In addition, we urge the EPA to move forward expeditiously with the next round of criteria pollutant standards -- the Tier 3 emissions and gasoline standards for passenger vehicles -- and to finalize these protections by the summer of 2012. A rigorous Tier 3 program would have immediate and far-reaching health and environmental benefits: Reducing harmful airborne contaminants, ensuring longer and healthier lives, and helping states and communities across our country to restore healthy air. These vital health protections will be achieved at an extremely modest cost. Timely

finalization of Tier 3 standards would allow manufacturers to efficiently align technology upgrades with the proposed 2017 through 2025 fuel efficiency and greenhouse gas emissions standards.

Thank you very much.

MS. OGE: Thank you.

Ms. Celia Canfield. Good afternoon.

TESTIMONY BY CELIA CANFIELD

MS. CANFIELD: Good afternoon. My name is Celia Canfield, and I'm a clean energy business advisor for a group called Small Business Majority, and I'm also a board member. Small Business Majority is a nonpartisan small business advocacy organization founded and run by small business owners. We represent the 28 million Americans who are self-employed or own small businesses up to 100 employees. Our organization uses scientific opinion and economic research to understand and represent the interests of small businesses across America. We are an organization that really goes out and researches what small business owners think, what entrepreneurs, freelancers and the self-employed need in order to understand and compete in today's global marketplace. So I'm bringing you their voices today.

I'm also a serial entrepreneur myself. I

started and grew a successful Internet agency in the '90s, and I created another consulting business in 2006 to support entrepreneurs who are creating clean energy economy solutions and businesses.

So what I'm going to do today is, I hope, challenge some of the conventional wisdom that some have said about where small business falls out on this topic. Because the solutions to today's economic malaise can certainly be found within small businesses. But the government must support them if we are to harness their power as job creators. Small businesses have the potential to stimulate the economy to even greater recovery, but they need policies to help them do so, such as stronger fuel-efficiency standards. By concentrating their efforts on raising requirements the automakers must meet, legislators can help entrepreneurs save money and give them the boost they need to rebuild America. And we know this from our research.

So we wanted to find out how strong fuel efficiency standards could help small businesses stimulate the economy, and we fielded a poll in 2011, September of 2011. And I have to tell you that the breakdown of the poll was 41 percent Independents, a mere 25 percent is Democrats, the rest is Republican. So this is not a biased poll by any stretch of the

imagination. And what we found was that 87 percent of small business owners believe that it's important for the U.S. to take actions now to increase fuel efficiency in cars and light trucks. 59 percent of those surveyed described this as "very important." Moreover, small business owners in the influential automotive states, in Michigan, Ohio and California, demonstrated equally strong support for more stringent standards.

Our survey found that 71 percent of small business owners believe American car companies do not innovate enough, and 73 percent believe that the federal government should do more to help them become leaders in the industry for innovation and produce the appropriate vehicles for the economic times we live in. Therefore, it wouldn't be surprising that 80 percent of business owners polled support requiring the auto industry to increase fuel efficiency to 60 miles per gallon by 2025, an even higher standard than the 54.5 miles per gallon the Obama administration proposed in November.

Small business owners know they will benefit from strengthened fuel economy standards. The proposed rules are right on par with what entrepreneurs told us they want: Improved fuel standards that have the power to cut long-term business costs. Stronger standards are a surefire way to help small business owners save money

on fuel, which will allow them to invest in their companies and hire more employees.

Of the employers we polled, the rising cost of doing business came in as their top concern and included rising fuel costs. This will help explain why so many small business owners believe stronger fuel economy standards have the potential to boost their bottom line. And, in fact, 87 percent of small business owners agree that improving innovation and energy efficiency are a good way to increase prosperity for small business. If lawmakers are going to meet these entrepreneurs' needs, raising fuel economy standards is a great way to start.

Through higher standards, the money small business owners don't have to spend on higher fuel costs can be reinvested in their business. Small business customers who spend less on buying fuel are much more likely to spend money patronizing the businesses in their communities. We support raising fuel economy standards because they will be a boon to our small businesses and to our economy. We thank you.

MS. OGE: Just in time. Thank you.

Mr. Frankie Ridolfi. Good afternoon.

TESTIMONY BY FRANKIE RIDOLFI

MR. RIDOLFI: Good afternoon. My name is

Frankie Ridolfi, and I am an owner of Climate Earth, also vice president of marketing for the company, and we're based in Berkeley, California.

Climate Earth provides environmental business intelligence systems to help companies become aware of the carbon emissions and other environmental impacts their company is having -- impacts they have some influence over. Our goal is to raise their consciousness so they become smarter, cleaner and greener, reduce their footprint and improve their business in the process. Therefore we support raising fuel-efficiency standards because it addresses our company's primary focus, which is managing resource use in a financial context.

We look at this issue from a complete supply chain point of view. Applying higher standards for fuel efficiency affects the entire system. It is a positive, multiplying influence, and it incentivizes innovation within and between companies, which is the real fuel for a thriving business sector.

Raising fuel efficiency standards is a smart strategy that lawmakers should enact into policy immediately, for the sake of small businesses and our economic recovery.

Higher fuel standards can help entrepreneurs,

like me, save money. We can use that money to grow our businesses and do our part to create jobs for the 14 million Americans who are unemployed.

I recently saw a survey from the Small Business Majority that found that 80 percent of California's small business owners believe it is important for the U.S. to take action now to increase fuel efficiency in light cars and trucks. 56 percent of California owners said it's very important to raise these standards.

Small Business Majority's poll also revealed just how strong small business owners would like to see fuel standards become over the next few years. Four in five California small business owners said they'd support raising requirements to 60 miles per gallon by 2025, an even higher standard than the 54.5, that rule President Obama proposed in November. With 60 percent of California's entrepreneurs saying American car companies do not innovate enough and 79 percent agreeing the federal government should do more to make them do so, now is the time for California to lead the way in making sure these standards are met.

If some of this sounds familiar it's because we're on the same page.

Small business owners have a strong economic

reason to favor bold fuel standards. Small Business Majority's poll found that California entrepreneurs see the rising cost of doing business as one of their primary business concerns. It is also for Climate Earth. That includes the cost of fuel. Improved fuel economy standards have the power to cut long-term business costs.

82 percent of California owners agree that improving innovation and energy efficiency are good ways to increase prosperity for small firms like mine. This helps explain why so many small business owners, like me, believe stronger fuel economy standards have the potential to boost our bottom lines and advance the broader economic recovery.

In the final analysis, higher fuel standards will help Climate Earth. Anything that causes companies to manage and reduce their resource use is good for our business and theirs. It honors the time-tested virtue of "waste not, want not," and it creates an important nudge. The proposed fuel economy standards are a win-win for Californians and all Americans. Thank you.

MS. OGE: Thank you.

Mr. Minsk.

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TESTIMONY BY RONALD E. MINSK

MR. MINSK: Thank you very much. I'm here representing Securing America's Future Energy, a nonpartisan organization that advocates for policies to enhance the nation's energy and economic security by reducing its dependence on oil. We enlist the support of prominent business leaders and retired military officers to overcome policy stalemates. Our advisory board is comprised of business executives and retired military leaders, co-chaired by General P.X. Kelley, Retired Commandant of the Marine Corps and Frank Smith, the CEO, founder and chairman of the board of FedEx Corporation.

Since our inception, we have advocated strongly for increases in fuel economy and were deeply involved in the debate that led to increasing fuel economy standards in EISA 2007.

We strongly support the agreement reached last summer between the administration and automakers and its embodiment in the proposed regulation because of the amount of the oil savings that it will achieve.

I would, however, like to take some time to offer some thoughts to help improve the proposal.

For two days in Detroit and in Philadelphia, we heard witness after witness talking about the

importance of this rule because of its ability to reduce our dependency on oil. But to be honest, we think many of them actually misunderstood the nature of that dependence.

There's no question that using less oil is better than using more oil, especially for the environment. And these standards are an important tool to help us achieve that goal. But from an energy-security perspective, this rule is really requiring simply to maintain our current level of security. It's often overlooked that our dependence on oil arises not from how much oil we use but from how much we spend on oil, the volatility of that total expenditure, and the effect of volatility on the economy.

The price of oil is set in a dynamic global market, and our reduced use of several million barrels per day over a period of 15 years is just as likely to result in lower production as it is to result in higher prices. As we all know, growing demand from the developing world is increasing upward pressure on oil prices.

And, in fact, just yesterday, the EIA posted on its website the early release of the 2012 Annual Energy Outlook, which is calling for oil prices to reach

up to $146 per barrel in 2010 dollars by the end of the forecast period. In fact, if you look at the chart which I handed out and we'll stick in the record, what you can see here is, even if the energy intensity of the economy is improved over the past several decades, the actual percentage of our economy that we are spending, the percentage of GDP that we're spending on oil is actually increasing, which goes directly to the question of oil dependence.

The only way to address this price volatility, which is a threat of our nation, we believe, is to stop using oil.

We have been promoting plug-in vehicles for four reasons: First, the fuel that is used to power them is domestic; second is a diverse portfolio for fuels; third, the price of power is much more stable than the price of oil; and fourth, electricity has the potential to be much cleaner in the long term.

In short, electricity has the potential to address a giant set of problems for our nation that no other fuel can address. Yet, for many years, the cost of this technology is going to be more expensive.

That the plug-in vehicles offer these great benefits to the nation justifies the incentives for this rule. The multiplier for EVs, for instance, will be an

important incentive. We believe, however, it should not be phased down, as proposed. 10 years after entering the market the, 2.1 -- 1.9 million hybrid vehicles on the road represent about 2.1 of the new-car market. Yet if they are getting an average of 35 to 45 miles per gallon, they are saving the nation about 15- to 25,000 barrels a day out of the diet of 19 million barrels a day.

Plug-in vehicles have an opportunity to make a much greater contribution than traditional hybrids, but they are going to need some incentives in the meantime so that consumers can overcome their concerns about them, help bring demand up, get to economies of scale and bring the price down.

Secondly, we believe the upstream emissions should not be attributed to the plug-in vehicles. Until this proposal, cars had always been responsible for what comes out of the tailpipe, not the fuel that goes into the car. If automakers are held responsible for upstream emissions, they'll be unique in the economy as compared to manufacturers of other power-consuming appliance, such as air conditioners, well pumps or electric ovens. They cannot control upstream emissions, which will, in any event, vary from region to region, from consumer to consumer and over time. And in

regulating total emissions, it will make it infinitely more difficult to later have a cap and trade program that incorporates emissions without endangering the whole count.

If, however, you do decide to regulate upstream emissions, they should be regulated for all vehicles, including petroleum-powered vehicles.

Finally, I can't stress enough, as others have already said, the importance of a real midstream review. The fuel economy regulations have never been issued so far in advance and asked so much of automakers. We don't know where oil prices are going to be. We don't know where battery prices are going to be. And these are critical factors in trying to see what can happen. And just like it's possible that the rules may not prove cost-effective, it's possible that we may find that tightening is also inappropriate. So we stress the importance of having a real review.

Thank you very much.

MR. MEDFORD: Thank you very much.

Is there a Mr. Bignell?

MR. BIGNELL: Over here, sir.

MR. MEDFORD: Well, I have you on the list.

How about Jim Castelaz?

We'll get you in the next round.

TESTIMONY BY JIM CASTELAZ

MR. CASTELAZ: Hello. First, I want to say thank you, again, for coming to San Francisco.

MR. WOOD: Thank you for having us here.

MR. CASTELAZ: Definitely. So my name's Jim Castelaz. I'm an entrepreneur. While the rest of my colleagues are making Web 2.0 games, I'm here and working on technology for electric vehicles, specifically heavier vehicles, trucks.

And I think -- well, for one, I wanted to definitely compliment you on making the switch to grams per mile for these standards. I see that we have been talking a lot about MPG, but I want it to be noted that what you write is really in grams per mile, and I think that's good. We get a more universal language.

We are in Detroit 1902 here. I mean, it is really a revolution in the vehicle industry. And I think focusing on miles per gallon and some of the old metrics, we can kind of miss that point.

So what I do take issue with -- so we build heavier vehicles, shuttle buses, trucks, all electric, zero tailpipe emissions. And on Page 3 of the announcement, there's a sentence here at the bottom: In recognition of manufacturers' special challenges in improving the fuel economy in GHG emissions in full-size

pickup trucks -- and I don't know who told you guys that, but I take issue with it.

If any of you want to -- my company's called Motive Power Systems, we're in Foster City -- come down this afternoon, and I'll give you a ride in an all-electric shuttle bus. We can drive you around in it. 100 miles range. The technology's out there. There's nothing special about trucks.

There definitely should be some sort of normalization as vehicles get larger. You get a lot more utility out of them. So great, normalize. And you guys do that with a footprint, square feet. And the bigger the footprint, the lower the -- the higher the grams per mile that are allowed. That's all right. That's a start. The problem with that is just because the vehicle's bigger, doesn't actually mean it has more utility. And so I think that's a problem.

I know everybody's been very positive. Maybe it's just the entrepreneur in me. There's people all agreeing with each other. Either we're behind the curve or something else is going on.

So -- but I think this is a great step in the right direction, but I think that looking into how we actually measure utility of these large vehicles so that fleets and manufacturers just don't make bigger vehicles

for the sake of having bigger vehicles, but there's a measure of utility beyond just footprint would be great.

I also think that these fuel standards are a very important piece of the puzzle along with incentive for funding for new technologies. We have been supported by the California Energy Commission. We haven't had any direct federal support to date, although we have been looking for it. I think that's another important piece of puzzle.

So I want to commend you guys for great work that you're doing, and I think this is a good first step, but there's definitely more to be done. So thank you.

MR. MEDFORD: Thank you.

Panelists have any questions?

I'd like to thank everybody for your testimony, and I think we're ready for the next panel.

(short recess taken)

MR. WOOD: Our staff wanted to remind you that you have five minutes from when the doorbell goes off. We'd like you to wrap up as quickly as you could, please.

Let's start with Ms. Jensen.

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TESTIMONY BY CHERIEL JENSEN

MS. JENSEN: I'd like to, first of all, thank President Obama, and I'd like to thank the EPA for doing this because it's way overdue. We have needed this so long. But then I'm going to say it's not enough. It would really have to deal with this.

First of all, let me remind you of the weather extremes we've had. We have never before in our history seen the kind of extremes that keep coming day after day throughout the world and throughout this country. The oceans are acid, fine. We have lost the dependency of our weather. I remind people of the spill in the Gulf -- that was our hunt for more oil -- and the damage that can be done by it. We're just about to lose the Arctic because we're allowing drilling in the Arctic, and we have no way of cleaning that up ever once it happens.

And I would like to pose another thing that very seldom gets mentioned. But as the melt water from the glaciers rise the oceans, we'll have more and more earthquakes, and so even the stability of our landscape will be lost.

Now, I have been all through forests throughout the Northwest, throughout the coast range and into Canada, and I have seen the whole forest where

maybe less than half the trees are still alive. This is all due to climate change. We have to change what we are doing.

Now, on a lighter note, the Royal Automobile Club in Great Britain sponsors a future car challenge. This last year, they sponsored a race that had teams from Volkswagen, BMW, Mercedes and Peugeot, but Gordon Murray walked away the winner. The T-27, an all-electric vehicle with a lightweight composite chassis won this challenge, completing a 57.3-mile course between Brighton and London on less energy than its fellow competitors. Carrying two occupants, the T-27 consumed only seven kilowatts of electricity, which is about equivalent to 350 miles per gallon. According to the company, the total energy bill came to 64 pence or about $1.03. This is what it looks like (indicating).

Second place went to an electrified Jaguar, E type, from Germany, which consumed 8.3 kilowatt hours. Tesla Roadster, Nissan Leaf and the unoccupied Citroen and the Honda Insight and a few other diesels also competed.

Murray, who is the inventor of this little car, noted that the race car designer whose cars won world championships at the Brannam and McLaren is on the

quest to get cars to lose weight by swapping out steel components for parts made from structurally strong plastic or composites. Car manufacturers can dramatically increase mileage without impacting performance. Less weight, after all, leads directly to better fuel efficiency and acceleration.

The T-27, for example, can go 100 miles on a charge, the same as the Nissan Leaf or Mitsubishi MiEV. The T-27, however, only supports a 12-kilowatt-hour battery pack, which is about half the size of the battery in the other two cars. The smaller battery means a quicker charging time and, potentially, a lower sticker price. Last year the Murray T-25 -- a T-27 was a gas engine beat the electric cars in the race with about an 80-mile-per-gallon rating.

Bright Automotive in the U.S. is making similar concepts with a lightweight delivery truck. Composite cars can also be cheaper to produce. Instead of steel stamping mills and painting for rustproofing, manufacturers really need to invest in software for injection molding.

Murray's car company does not plan on producing cars. Instead, it will license its intellectual property. I deal with established manufacturers. There it is. It's right out there.

It's here for us. They already have invented it, and we can do it. And they will license it, and we can build them here right now. 350 miles per gallon equivalent.

And so let me just say a little -- a few personal notes here. In 1970, I had dissolved a little business I had, and I had $1200 in my pocket. And I drove by the Honda Motor Company. And in those days, all we knew about Honda was that they made motorcycles. And here's this little car at the Honda dealer. And I drove in and I bought it.

Well, this little car got 44 miles to the gallon at a time, 1970, when our car manufacturers said they could not meet the California 1975 standards. This car was meeting those standards. I had it tested. And I went to an event where they were testing, and I know that that's the case.

Well, my husband who -- typical male -- wants things a little bit beefier, I told him I had to have him -- I had to pick him up to have him help me get this car home. He said: Well, can you take it back? And I said: No, I paid for it. I'm going to have it.

Well, 1972 came, people were standing in line shooting each other over gas. Well, all of a sudden, it became his car, and he was driving all his friends around in it.

And so we're talking about here whether or not there's a receptive consumer audience. Well, it depends, you see. It depends on the circumstances entirely. And when gas becomes $10 to $20 a gallon, we're all going to want these little 350-miles-per-gallon cars. And a lot of us want these right now. In fact, if I could get that little Honda back, I would buy it now.

Well, okay, going to the present.

MR. WOOD: Could you wrap up, please?

MS. JENSEN: I decided I'd buy a Prius five years ago. I had no idea that my daughter, who was almost 40 years old, at that time was going to get married. And I didn't have an idea that I would have a grandchild. And she lives in San Francisco and I live in Saratoga. But because I have the Prius, that means that I can come and tend to her two days a week. So that makes the whole difference. And my husband didn't want to buy that Prius either, but he --

MR. WOOD: It's clear he should be listening to you more.

MS. JENSEN: Thank you.

MR. WOOD: Thank you very much. I think for the ease of going down and identifying the panelists, we'll just go straight down, and you can identify

yourself and your affiliation, please.

Mr. Bignell.

TESTIMONY BY BARRY BIGNELL

MR. BIGNELL: Good afternoon. My name is Barry Bignell. I'm with the first green limo company in America called PlanetTran. We started the company approximately seven years ago to address the business travel market. And when we could give the customer, our clients, less expensive, less carbon-intensive -- and get around without sacrificing service or comfort.

Our whole hybrid fleet, which consists of some 70-odd cars, average about 40 miles to the gallon. They are predominantly Priuses, a couple of Camrys and Highlanders, but they are all hybrids. And this is a tremendous advantage, and we pass that savings along to our customers, about a 30 percent savings.

We also use the latest technology for our reservations and electronic billing system. So it's all done electronically with text, et cetera. So we cut out the paper issue as well as many of us go through the paperless bank accounts, et cetera.

We provide mostly in the business-travel market corporations, institutions and using only the fuel-efficient hybrid vehicles. Since we've operated

the Prius, it has proven a remarkable car from a safety, economy and reliability point of view.

Basically, I don't know if you know how a hybrid works. Typically, it has dual sources of power; whereby, when it takes off, you use battery power. When it needs more energy, it will then kick in the gas engine. And when you stop, conversely the gas engine will stop. And usually when I get a new driver, they drive it for the first time, they think the engine stalled, and they expect somebody to be honking from behind. The advantage, of course, it not only saves gas, it saves noise pollution as well.

Generally, pure hybrids are very easy to maintain. They've proven their reliability over the years now. And we really are behind the EPA initiative of getting better fuel economy overall.

In 2011, for example, the average typical American household spent a record $4,155 for the gas tank, which is the highest share of median family income since 1981. Adopting a fuel efficiency and emissions performance equivalent of 54.5 miles per gallon by 2025 will save consumers approximately $6,600 in fuel costs over the life of a model year 2025 compared to a 2010 model.

With the innovation of higher fuel economy

standards, American manufacturers develop new technologies that will indeed spur investment, research, development and competitiveness of U.S. manufacturing and to enhance, indeed, our exports to nations with a growing demand.

It incentivizes the introduction of new and advanced technologies and increases, of course, our U.S. independence on foreign oil and spurs the deployment of electric and hybrid vehicle technologies to the light-duty fleet, which saves fuel costs for individual consumers and, indeed, businesses with fleets.

How these standards will reduce greenhouse emissions, I know there's numbers pouring out all over the place. Your head's probably swirling as much as mine. But basically they will reduce dependence on oil by 4 billion barrels, which will slash approximately 2 billion metric tons of greenhouse emissions.

And next time you arrive at San Francisco Airport, please consider a green limousine. Thank you for your time.

MR. MEDFORD: Thank you for your testimony.

Mr. Bailey.

TESTIMONY OF GARY BAILEY

MR. BAILEY: Thank you very much for the

opportunity to speak to you today. I'm Gary Bailey. I live in Sunnyvale, California. It's near the southern end of the San Francisco Peninsula. So I spent an hour on the train and half hour on the bus to get here today to tell you that I strongly support the proposed increases in fuel economy standards and the proposed limits on greenhouse gas emissions.

I support them strongly because they will make this country a better place and the world a better place for my children and grandchildren and for their children and grandchildren; better because there will be less health-damaging pollution in the air, air pollution, resulting in fewer illnesses and deaths from air pollution; better because we will dramatically reduce our dependence on oil, which will be a boost to our economy, as you've heard already, and a dramatic help to our national security. Maybe we will even have fewer wars in the future.

It will be better because it will have a dramatic reduction in earth-damaging greenhouse gas emissions which are already causing major human suffering in many places and are sure to cause a lot more human suffering in the coming decades.

Only one example is the millions of people in the over 40 low-lying island nations that are going to

be watching their homelands disappear beneath rising sea levels caused by climate change and greenhouse gas emissions, not to mention the other low-lying places like Bangladesh. And in a few decades, maybe most of Florida and a lot of Louisiana where I went to high school and college will be disappearing below sea level if we don't make some changes.

And I just wanted to point out that a recent study by the United Auto Workers, the National Wildlife Federation, and the Natural Resources Defense Council has shown that the fuel economy standards that are adopted for 2012 to 2016 have already created or saved 150,000 jobs building cars and components for them, with over 300 companies and 43 states busily at work developing new technologies to help auto manufacturers meet those standards. So that is a big boost to our economy, and these new proposed standards will be an even bigger boost to the economy.

So just in closing, I'd like to point out that when a proposal, like this, is supported by the industry and by labor, by civic and nonprofit groups and scientific consensus, there can be no legitimate reason for not adopting it.

Thanks for listening, and thanks for working to make the country and world a better place.

MR. WOOD: Thanks for your testimony. Thanks for taking public transportation.

I can't see the next tent card.

TESTIMONY OF ALISSA KENDALL

MS. KENDALL: My name is Alissa Kendall. I'm an assistant professor at U.C. Davis in the Department of Civil and Environmental Engineering and a faculty affiliate of their Institute of Transportation Studies.

And I'd like to start by thanking the officials and the staff that organized this and permitted us to speak today.

I'd also like to state my support for the rulemaking or proposed rulemaking and offer praise for all the in-depth research that's already happened.

I hope my comments today will demonstrate that the EPA should continue advancing research by extending its scope of analysis from the tailpipes to the life cycle, including upstream impacts of materials and vehicle technology.

Previous life cycle assessments of passenger vehicles estimated use-phase emissions constitute 85 to 95 percent of life cycle greenhouse gas emissions. So standards that address fossil fuel consumption through fuel economy standards or CO2 from the tailpipe have

functioned to successfully limit or reduce life cycle emissions and will probably do so in the near future as well.

However, two trends suggest that tailpipe-only standards could miss important tradeoffs in technology and design decisions in the future. The first trend is that many technologies that reduce greenhouse gas emissions during operation increase emissions during production. This has been shown for advanced materials used in mass production and also electric power train. The second trend is that when we use reduced greenhouse gas emissions during vehicle use, the relative importance of production-related emissions increases. These trends have been highlighted previously including in the NHTSA draft Environmental Impact Statement and a recent CARB report for their advanced Clean Cars program.

EPA's greenhouse gas emission standards and NHTSA'S CAFE standard are performance-based, allowing for flexibility in how vehicle producers achieve compliance. They can select from an enormous range of technologies and innovations, each of which have unique upstream burdens associated with them. This means that among future vehicles, there may be significant differences in upstream emissions. And if upstream

emissions are significant enough, there's a potential for vehicles with lower tailpipe emissions but higher life cycle emissions to be favored.

We undertook research to address these issues. The research was funded by the AISI and the World Auto Steel organization and with additional support from U.C. Davis, the U.C. Davis Institute of Transportation Studies. A summary of our research and findings is currently undergoing peer review in a scholarly journal.

Using a case study approach, we undertook a streamlined LCA for a future vehicle and tested whether tailpipe-only standards could result in the preference for vehicles with lower use-phase emissions but higher life cycle emissions. We used a vehicle designed -- developed in Lotus Engineering 2010 report, a model year 2020 [sic] Toyota Venza. Lotus redesigned the Venza for improved fuel economy while meeting predefined cost constraints and targets for equivalent consumer performance. They did this through light-weighting and power train actions such as hybridization. The high-development vehicle described in Lotus's report was the basis for our model.

To perform the LCA, we connected the bill of materials generated by computer-aided engineering software to life cycle inventory data. Life cycle

inventories characterize the upstream emissions associated with material production and forming processes. Using this approach, we found the use phase responsible for 71 to 76 percent of life cycle emissions, which aligns with many previous studies of advanced power train vehicles.

We also performed a variation on the analysis where we altered Lotus's high-development vehicle by replacing the lightweight body structure with one that was 100 kilograms heavier. This was referred to as the low-development structure in the Lotus report. This heavier body structure eliminated some carbon-intensive lightweight materials, primarily magnesium and some aluminum. These materials were replaced with mild and advanced high-strength steel. The change in vehicle weight led to a decrease in fuel economy of 3 miles per gallon, which in turn increased CO2 emissions during operation. Despite these increased emissions during vehicle use, the new design reduced total life cycle emissions by a significant amount, which approximated to 10 to 20 grams of CO2 equivalent per mile, depending on vehicle service life.

To put this in perspective, the difference in emissions between the two designs is greater than any of the off-cycle credit provisions and similar in magnitude

to many of the air-conditioning credits that the EPA has already considered in its rulemaking.

Our research process also demonstrated that by using the detailed bill of materials generated in computer-aided engineering software, we could produce a streamlined LCA quite efficiently. Since computer-aided engineering tools are widespread in the automotive industry, conducting LCAs may be less burdensome than anticipated.

To summarize, our analysis suggests that there is a potential for a tailpipe-only CO2 standard to favor vehicles with higher life cycle emissions over those with lower life cycle emissions, shifting greenhouse gas emissions from the tailpipe to production sites. Continued research in tracking of upstream emissions for future vehicles may help manage the risk of selecting vehicle design and technologies where upstream emissions overwhelm use-phase savings. In addition, including upstream emissions in the standard could provide vehicle producers with an additional degree of flexibility to achieve CO2 production.

Thank you.

MR. WOOD: Perfect timing. Thank you.

Ms. Morehouse.

TESTIMONY BY ERICA MOREHOUSE

MS. MOREHOUSE: My name is Erica Morehouse, and on behalf of the Environmental Defense Fund and our more than 700,000 members nationwide and the numerous members here in California, I sincerely thank you for the opportunity to testify in support of this landmark proposal which addresses extensive climate disrupting pollution from passenger vehicles. These standards will provide consumers with nearly double the fuel efficiency of today's cars and light trucks and save hard-earned dollars at the gas pump.

We applaud the collaboration between the Environmental Protection Agency, the Department of Transportation, auto companies, the workers that forge cleaner cars and the State of California in building this landmark proposal, together through tough negotiations and an abiding commitment to a common good for our nation. The success of this collaboration is reflected in the broad support for this rule, from small businesses, consumers, veterans, national security experts and many more. And we applaud California for its leadership in spurring cleaner cars through its extraordinary world-class expertise.

California's leadership is rooted in a firm bipartisanship. Over 40 years ago, during the

development of the Clean Air Act in 1967, it was Republican Senator George Murphy of California who sponsored the pivotal legislative language guaranteeing California's continued leadership in establishing clean car standards. Senator Murphy won sweeping bipartisan support for California to maintain its authority to protect human health and the environment from automobile emissions pointing to the very seriousness of air pollution.

California has continued to show bipartisan leadership in driving our state and our nation toward cleaner cars and trucks. The National Academy of Sciences examined California's time-tested leadership, finding that the Golden State has long been looked at as laboratory for emissions control innovations. California's continued collaboration with EPA and DOT to establish protective fuel economy and greenhouse gas emission standards will again mean cleaner cars and trucks for our nation and the world.

The proposed rule under consideration today will help to provide energy security, economic security and climate security for our nation. Increasing the efficiency of our passenger fleet is one of the single most effective solutions we can employ to reduce our dependence on oil, and will likely be President Obama's

greatest climate and energy security legacy.

With respect to the energy security, when combined with Phase 1 clean car standards, the proposed rule's fuel economy and emissions standards will cut our oil consumption by over 2 million barrels a day, more than we import from the Persian Gulf.

With respect to economic security, combined again with the Phase 1 standards, the proposed rule will provide families with more than $8,000 in fuel savings over the lifetime of the new vehicle for a total of 1.7 trillion in national fuel savings over the life of the program.

With respect to climate security, the combustion of oil in our nation's fleet of passenger vehicles accounts for about 20 percent of U.S. greenhouse gas emissions. Together with the first-phase standards, the proposed standard under consideration will cut heat-trapping carbon dioxide pollution by over 6 million metric tons.

These emission reductions are an important part of a national and global effort to ward off the worst consequences of climate change. The U.S. Global Change Research Program has found that climate change is already affecting water, energy, transportation, agriculture ecosystems and health.

In California and the Southwest, water supplies will become increasingly scarce, calling for tradeoffs among competing uses and potentially leading to conflict. Increasing temperature, drought, wildfire and invasive species will accelerate the transformation of the landscape. Increased frequency and altered timing of flooding will increase the risk to people, ecosystems and infrastructure. And according to a peer-reviewed study published in the scientific journal, Climate Change, climate change is also likely to harm California's economy by reducing the types of natural nonirrigated vegetation available for livestock forage and ability of forest ecosystems to store carbon dioxide.

These impacts do not come at a small price. Natural disasters in 2011 wielded the costliest toll in history, a massive 380 billion worth of losses from earthquakes, floods, tornadoes, hurricanes, wildfires tsunamis and more. That figure does not include the expenses associated with the sickness or injuries triggered by the disaster.

The collaboration that helped develop the proposed rule demonstrates the best practices of our government. At the same time California is moving in parallel with EPA and DOT to establish criteria for

pollutant and greenhouse gas emission standards. The state is developing these standards to complement the program and will help reduce the harmful oxides of nitrogen, particulate matter and volatile organic compound pollution from light-duty vehicles, strengthening vital protections against deadly particulates and the key ingredients in smog.

We respectfully urge EPA to build from the foundation forged by California's leadership and immediately propose Tier 3 emissions and gasoline fuel standards for passenger vehicles and to finalize these protections by the summer of 2012. Such rigorous programs would have immediate and far-reaching health and environmental benefits.

In conclusion, the Environmental Defense Fund is proud to be among the manufacturers, the auto workers, the economists, and health and environmental advocates, the states, the national security groups and small businesses and consumer groups that all agree that cleaner, more efficient vehicles are a step forward for American families and businesses. Thank you.

MR. MEDFORD: Thank you very much.

Dr. Corcoran.

TESTIMONY OF DR. RICHARD CORCORAN

DR. CORCORAN: Hello. My name is Dr. Rick Corcoran, and I'm a retired eye doctor from Santa Cruz, California. I'm here to testify today on behalf of the proposed standards for the 54.5-miles-per-gallon fuel economy by 2025.

My wife and I own a Chevrolet Volt and a Nissan Leaf. I applaud the Obama administration for encouraging the adoption of this new technology by giving us tax credits on both cars, and for the State of California to give us a rebate on the Leaf. Without such rebates, the adoption of these new cars would make it difficult for the average American consumer to buy these cars.

We have owned the cars for about six months now and our driving miles are about the same as the average American, at roughly 1,000 miles per each vehicle. My wife's mpg is, of course, infinity. Mine is 120 miles per gallon. Let me say that again. It's 120 miles per gallon. And I consider the Volt to be just a transitional technology.

Realizing that you want a 54.5 average fleet mpg in 14 years seems to be easily doable even today based on our experience with existing technology. Who knows what we will be capable of in 2025.

The major concern by those against these proposed standards is cost to the consumer. The EPA's estimate, I believe, is about 3,200 per car. The National Automobile Dealers Association's worried that it might cost up to $5,000 per car. I believe it's been shown that the savings in gasoline costs over the lifetime on the car is about $4,000. Obviously, the cost is paid for in gas savings.

My emphasis here today, though, is on electric and gas electric hybrid technology. I'd like to show you how much it costs us to own our electric Leaf. Let's use some simple math and simple assumptions. First, I'll use an average fleet mpg today of 25. My wife drives her car 1,000 miles a month. This equates to 40 gallons of gasoline she doesn't have to buy. If you'll allow me an average cost of $5.00 per gallon over the next eight years, that comes out to $200 a month she's saving in gas costs alone. In that year, that's $2400. Remember, that she would have needed two oil changes in that year, saving an additional $100. That's $2,500 a year total. You see, electric cars are a dream maintenancewise. They need no oil or filter change. They have no transmission, no radiator, no exhaust system, no air cleaner. You get the idea. Even the brakes are supposed to last longer due to regenerative

braking.

Back to our cost analysis. The car battery and drive system is warrantied for eight years or 100,000 miles. So in eight years, she will have saved $20,000 on gas and oil alone. Now, the car cost 32,500, we got a tax credit of $7,500, bringing it to 25,000. California threw in an additional $5,000 rebate, taking the grand total for car of $20,000. The car cost 20,000. We saved 20,000. I guess the car was free.

Now, you may say the electricity to charge the car still costs money. To defray the electricity cost, we put in a solar panel system. And after six months our electric bill is zero. The solar panel system did cost after rebates and tax credits about $5,000. I would argue that after eight years, we could probably sell the Leaf for 5,000. So, again, the car was free, and we got a solar panel system, which will last about 25 years.

Part of my emphasis here today is that not only do we dramatically decrease our need for oil, but we also spur the residential use of solar panels. Imagine having your own fuel station at home. Not only is the fuel free after initial up-front costs, but it's as clean as it gets, and from a completely 100 percent sustainable source. As my wife and I like to say, we

fill our cars with sunshine.

Because we're at the forefront of the new technology, I would contend that the cost of cars and solar PV systems will also decline over time so that credits and rebates would no longer be necessary. Solar PV systems have already declined by 65 percent in the past ten years, and solar panels are now a commodity item, generally purchased from China.

Besides, if we can give subsidies to oil companies, the most profitable companies in the world, surely we can help a burgeoning new technology, which will create jobs here in America and a whole new product to export to the world, rather than us continuing to import oil. If we don't do it, China will. Thank you.

MR. MEDFORD: Thank you.

Mrs. Corcoran.

TESTIMONY BY KATHY CORCORAN

MRS. CORCORAN: Good afternoon, and thank you for the opportunity to testify today.

My name is Kathy Corcoran, and I'm a native of California. I currently live in Santa Cruz, and I grew up in Silicon Valley. I've been a public schoolteacher for 32 years. I'd like to begin by saying that I applaud the Obama administration for proposing historic

fuel economy and greenhouse gas standards that will reduce our dependence on oil and cut carbon pollution.

I too am doing my part as an individual in ending my dependency on oil and am working to reduce my carbon footprint while behind the wheel of an automobile. As my husband has told you, I'm the proud owner of a 2011 Nissan Leaf, the first that were out there, the all-electric vehicle. And I would like to share with you how I came to make the decision to purchase this car.

First was energy security. I have three children, 20, 25, and 29, and I watched as many of their friends volunteered to serve their country and were shipped off to Iraq or Afghanistan. I've seen firsthand the damage that this war has caused.

I chose to purchase and drive a Leaf as a statement to everyone who sees me that I am no longer connected to Big Oil. I do not want to see the students who are sitting in their desks today going off to a war for oil.

Concerning the production of oil, I'd like to share with you a startling fact that I just learned. It takes less electricity to drive my car 100 miles than to drive a gas-powered car 100 miles because of the electricity consumption to refine the gasoline.

I drive an electric car that is powered by our personal solar system, thus cutting my dependency on oil. As a teacher, I find it hard not to share this reason with anyone who will listen. My captive audience of sixth graders may not remember where to place a comma in a sentence, but they know all about why I drive an electric car. I'm doing my part.

Speaking of children, their future is the biggest reason I decided to buy my car. Kids get it. They know all about global warming and the importance of reducing carbon pollution and want to do something about it. In my teaching of U.S. history and current events, it is very obvious to my students that the United States is a world leader and sets examples throughout the world. They are also aware that the U.S. consumes a lot of the world's energy. Their confusion comes when they notice, as a nation, we are not taking a leadership role in being responsible with our consumption.

So I bought my car to be a role model for them and anyone else I find who will listen to me. It is my strong opinion that the United States must be setting an example for the world. We must be the energy-efficient nation. As a nation, we must begin to repair our economy with the new technologies that are

available. As a nation, we must take our responsibility for energy consumption seriously, drive more efficiently and protect our world for our children's children. Please do all that you can to educate the public and not allow excessive loopholes and auto industry giveaways to undermine the President's oil savings and emission reductions goal.

Thank you very much.

MR. MEDFORD: Thank you. Both you and your husband made Ms. Jensen smile down at this end of the table. Very good.

Next, Mr. Swain.

TESTIMONY BY GALEN SWAIN

MR. SWAIN: I'd like to welcome the panel to California. Good afternoon. My name is Galen Swain. It is my honor to give testimony to this distinguished panel.

I'm an United States Air Force veteran who served honorably in peacetime for six years under Presidents Carter and Reagan.

I'm a Motor City son, born on the banks of the Detroit River and our nation's border with Canada. I am a former General Motors employee who has lived the economic devastation of an industry that failed to

recognize the weaknesses of its business model. Lobbying governments for favorable treatments is not a business plan; it is a tactic. Nor will it isolate a business from the externalities of disrupted energy resources.

I'm also the father of a teenage daughter who committed suicide with a vehicle in a garage, on prom night. One only needs to look at my daughter's example to conclude that emissions are certainly harmful.

I'm not here to make a personal case for increased fuel efficiency and emissions standards. I'm here to make a business case and a national security case for why we, as a nation, must change our energy policy and recognize the perils, should we all fail to do so. It is important for our government to provide the leadership on these risks that somehow the private sector has seemed to ignore.

I graduated high school from Fowlerville, Michigan in between two oil embargoes 35 years ago. So it seems to me that the automotive industry should have known all that it needed to know about its business future going forward, particularly the plan for -- the need for a Plan B because Plan A presented considerable risks to the business model, the risk further compounded by off-shore business competitors who did

not -- who did recognize the risks. Their decisions to bring products to market that customers were increasingly making conscious economic decisions on paid off.

To the American automotive industry, I say the failure to plan in the 1970s was a plan to fail, three decades in the making. We now have a history as our example. I repeat: Lobbying governments for favorable treatment is not a business plan; it is a tactic. More importantly, it should not suffice for a sound business plan.

I've lived and worked in Silicon Valley for 15 years, mostly in the semiconductor industry. It was years ago that I told my father who, with my mother, raised six children and made a living in the automotive industry, that Silicon Valley was the Motor City of this millennium. That is our vision for the future, our ethos. Our ethos was all about energy efficiency. You couldn't squeeze the efficiency of an electron any tighter than in any other industry than in the semiconductor industry.

We are fast approaching the atomic physical limitations. But, you know, I still believe in innovations yet unknown. In Silicon Valley, we are absolutely clear on one thing: Disruptive technologies

are constant.

The vision and ethos should have entered the business calculations in Detroit decades ago. I'm sure it would be a much more vibrant community than what we see today.

Now I'd like to turn our attention to the case for national security. Offshoring of American wealth does not enhance national security. It weakens it. When I graduated high school, the United States produced 60 percent of its oil domestically and imported 40 percent. Today those figures are closer to 30 percent domestic and 70 percent imported, with imported rate increasing at a rate of 1 percent per year. This trend must stop, as it suggests that we have three more decades left before we offshore 100 percent of our wealth for most of our energy needs. That is wrong and dangerous.

There is plenty of media coverage about the Straits of Hormuz these days, and it's manifesting itself at the gas pumps this week. Additionally, we have vulnerabilities to major oil refinery facilities right around the corner from the Straits of Hormuz. Just like the automotive industry, our nation is not isolated from the risks of disruption. One only needs to extrapolate the calculations of 5 percent to

10 percent global oil production being taken offline. Imagine the challenges of a heavily dependent Navy and Air Force that has to project power protecting oil shipping lanes. The global economy would sacrifice to do so, and yet it is that very same economy that provides economic means to project power. To use a metaphor, it's like a snake eating its tail. Imagine the civil unrest around the world because of the disparity of economic circumstances.

Lastly and briefly, broad sections of the scientific community have concluded that the amount of CO2 emissions in the atmosphere are at levels that threaten ecosystems and has human fingerprints on it. It is insulting to think that anyone wants to argue that tailpipe emissions aren't harmful to the environment. The ecosystems threatened include food chains, coastal populations. If we didn't have big ice cubes at the North and South Pole, we'd have over 50 meters of sea level rise.

The insurance industry and the Department of Defense are already planning for an increase. I would recommend the same planning for the Environmental Protection Agency. Increasing energy efficiency and emissions standards in vehicles is a no-brainer when it comes to economic security and national security.

I support targets for increasing miles per gallon. The American automotive industry should want to do it, if for no other reason than to differentiate their product line from all others. That would demonstrate pride and vision. I thank the panel.

MR. WOOD: Thank you very much.

Mr. Danker.

TESTIMONY BY MERVYN DANKER

MR. DANKER: Thank you very much indeed for the opportunity to speak at this joint hearing for the Environmental Protection Agency and the National Highway Transportation Safety Administration.

I'm here today on behalf of AJC's San Francisco regional office and on behalf of AJC national and it's more than 175,000 members and supporters to urge that your agency safeguard and further strengthen the fuel economy standards agreed upon in July 2011 between the automakers and the Obama administration. AJC strongly believes that these standards are a critical element of the U.S. commitment to decreasing dependence on foreign oil through enhancement of vehicular efficiency.

As you well know, pursuant to the announcement made last July fuel economy standards are to be raised

to 54.5 miles per gallon for cars and light trucks between 2017 and 2025, and standards are to be issued for the first time for medium-duty and heavy-duty vehicles. This improvement in fuel efficiency for passenger vehicles marks an important step forward in ending U.S. dependence on imported oil. And importantly, even as we are convinced that we, as a nation, must be prepared to incur additional costs in the cause of reduced dependence and enhanced security, any increased costs associated with making our vehicles more fuel efficient will be offset by the overall savings on gasoline that will come from operating more fuel-efficient cars.

Each day, the United States sends $1 billon overseas to pay for the needs of a transportation sector that is 95 percent dependent on petroleum-based fuels. A quarter of our oil imports come from the Middle East and Venezuela, nations whose interests are inimical to our own. Our nation's expenditures on imported oil fund the very same nations whose radical movements and unstable regimes pose significant threats to America's national security. Raising fuel economy standards sends a clear signal that America's on the path towards ending its oil addiction and flow of petro-dollars to the coffers of these regimes.

AJC has long called for the United States to set as a primary national goal a comprehensive energy policy aimed at substantial reduction in U.S. dependence on imported oil. Toward that end, AJC has unveiled a national energy strategy that would reduce total current U.S. imports of petroleum and petroleum products by a minimum of 2.75 to 3.25 million barrels a day by 2020. Increasing fuel economy standards is an essential element of that strategy, even as it is far from the last step to be taken.

We urge you and the Obama administration to continue this important effort by working to ensure that our nation's vehicle fleets continue to be held to the highest feasible standard and by looking for opportunities to further raise fuel economy standards, as well as by expanding the availability and variety of alternative fuel vehicles through open fuel standard, electrification and enhanced use of natural gas.

I thank you very much, again, for providing us the opportunity to express our views. Thank you.

MR. WOOD: Thank you very much.

My colleagues have any questions?

No. Well, I thank each of you for your thoughtful testimony this afternoon. We're going to take a 15-minute break. We're going to change court

reporters, and we will be back in just 15 minutes.

(short recess taken)

MS. OGE: We'll start with Mr. Boesel, John. Good afternoon.

TESTIMONY BY JOHN BOESEL

MR. BOESEL: Thank you, distinguished members of the panel. I really appreciate this opportunity to present. I have submitted written testimony, and having been here for the previous panel, I think what I will do is try to keep it very short so you can get back to the hotel at some point tonight.

Just in brief, CALSTART is a nonprofit organization that works with industry to try to help develop the clean transportation technology industry. Of our 140-plus member companies, we have car and truck manufacturers, startups, utilities, fleets, equipment suppliers, venture capitalists, banks, and many others.

We are fuel and technology neutral. We think there are many paths to the future and we have been in existence for almost 20 years now. And we view these rules as at least a portion of what we've been able to accomplish that automotive technology over the last 20 years has really improved dramatically, and yet I think we've just begun to see how quickly this technology can improve.

I think we're on a trajectory that will see a ramp up, a significant ramp up in the adoption and development of clean and energy efficient automotive technology. We are going to be benefitting from developments in nanotech space, greater computer controls and sensors and improved energy storage technology.

So we are just at the beginning of a very interesting and very positive period. I believe that these regulations -- and we've shared this with members of Congress -- are good for business.

These regulations will help drive investment in the United States industry and in companies here, and that's both for startups as well as established component suppliers and OEMs.

We believe that these standards are very feasible and achievable. They will focus engineering resources on the priorities that are significant for the nation. They will push and encouraged innovation, but they will not overreach.

I believe that there is an 85- to 90-percent probability of success that these regulations would be adopted at a cost that will not have any significant negative impact on the American economy. If anything, I think the standards could

be higher, could be stronger, could be toughened, and that's why we will be working and presenting testimony to the California Air Resources Board on Thursday of this week, because we think it will be important to continue to push the envelope here in California.

And I just want to say a few closing comments, which is that other nations have even tougher, more demanding vehicle efficiency standards. So to comply with rules in other countries, the OEMs will have to develop these technologies.

The question is, will we implement these rules as detailed today so that technology has to be applied to our unique set of circumstances and our unique people population here in the United States.

So I think as written today there is a lot of flexibility in the rules. I think the OEMs can comply with this and I think it will drive investment in the United States and help companies with advanced clean vehicle technology to go grow here in the United States. Thank you.

MS. OGE: Thank you. Mr. Tom Wenzel?

TESTIMONY BY TOM WENZEL

MR. WENZEL: Good afternoon. My name is

Tom Wenzel. I'm a Research Scientist at Lawrence Berkeley National Laboratory. I appreciate the opportunity to provide comments on the NPRM for this joint rulemaking today. My comments today are mine alone, and I do not represent the views of the U.S. Department of Energy, the Berkeley Lab, or the University of California.

For the last two years I have been under contract with DOE to assist NHTSA and EPA in their analysis of the effect of vehicle mass reduction on safety.

My work has resulted in two studies: an assessment of NHTSA's 2011 regression analysis of U.S. fatality risk per vehicle mile traveled (or VMT), and my own regression analysis of casualty risk per police-reported crash. All three of these studies are available in the public docket with this rulemaking.

My studies agree with NHTSA's conclusion, that the effect of mass reduction on U.S. fatality risk is small and is statistically significant only for lighter-than-average cars.

For lighter-than-average cars, the regression models suggest that a 100-pound reduction in mass would increase U.S. fatalities per vehicle

mile traveled by less than 2%.

These results are much smaller than those NHTSA estimated in earlier studies in 1998 and 2003. Other variables that NHTSA included in their regression models have a larger effect on fatality risk than a reduction in vehicle mass.

My analysis by vehicle model indicates that on average, U.S. fatality risk does tend to increase as vehicle mass decreases, except for full-size pickups; societal risk actually decreases as full-size pickups get heavier. This is because of the high risk that full-size pickups impose on drivers of other vehicles.

Although risk increases as mass decreases for other types of vehicles, there is very little correlation between risk and mass for individual vehicle models, even after accounting for differences in other vehicle attributes, driver age and gender, and crash times and locations.

Police-reported crashes can be used to estimate four types of risk: fatality and casualty risk, either per vehicle mile traveled or per crash. Casualty risk includes fatalities plus serious or incapacitating injuries.

My analysis found comparable results in

terms of casualty risk per crash to those from NHTSA's analysis of fatality risk per VMT; in most cases, mass reduction resulted in an even lower effect on risk in my analysis than in NHTSA's analysis.

I isolated the two components of fatality risk per VMT: the number of crashes per VMT (or crash frequency), and fatality risk per crash (or crashworthiness).

Crash frequency consistently increases as vehicles get lighter for all types of vehicles. However, mass reduction has only a small effect on fatality risk once a crash has occurred.

In conclusion, the three new analyses suggest the effect of mass reduction on risk is much smaller than NHTSA previously estimated and statistically significant only for lighter-than-average cars.

The agencies should keep in mind that the regression models in the three analyses are not exactly estimating the effect of mass reduction on risk; rather, they are estimating the recent historic relationship between mass and risk after accounting for most measurable differences between vehicles, drivers, and crash times.

In essence, the models are comparing the risk of a 2600-pound Dodge Neon with that of a 2500-pound Honda Civic after attempting to account for all other differences between the two vehicles. The models are not estimating the effect of literally removing 100 pounds from the Neon.

Reduced mass does not inherently decrease vehicle safety; it all depends on where and how the mass is reduced; in short, how mass production is incorporated into the overall vehicle design.

Finally, the agencies should recognize that the results of the three new studies are based on relationship of vehicle mass and footprint on risk for recent vehicle designs. These relationships may or may not continue into the future as manufacturers utilize new vehicle designs and incorporate new technologies, such as more extensive use of strong, lightweight materials and specific safety technologies. Thank you.

MS. OGE: Thank you. Mr. Bruce Klafter?

MR. KLAFTER: Yeah, Klafter is correct.

MS. OGE: Good afternoon.

TESTIMONY BY BRUCE KLAFTER

MR. KLAFTER: Good afternoon. My name is Bruce Klafter. I'm here in two capacities this

afternoon: I'm one of four chairs of the California Clean Cars Campaign which is a broad-based coalition of public health officials, environmental organizations, businesses, faith groups, local governments and others, all of whom support implementation of the highest possible clean car standards in California and who carry the belief that doing so will bring manifold benefits to not only the state, but to the nation.

I'm principally here this afternoon as head of Corporate Responsibility and Sustainability at Applied Materials in Santa Clara, California. Applied is a multinational company. We employ 13,000 individuals in 21 countries around the world.

Our principal lines of business are to provide equipment, capital equipment, services and software to the semiconductor display and photovoltaic industry. Our mission really is to enable the innovation in various industries, and it's our belief that the creation of a robust clean car economy in the United States is absolutely critical, and we're hopeful that we can contribute somehow to that.

But we are very supportive of the proposal that's being reviewed today; the NHTSA and EPA

proposal, and we applaud the Obama Administration for proposing these historic fuel economy and greenhouse gas emission standards.

Applied Materials was an early and strong supporter of the California Global Warming Solutions Act. We also are very appreciative of the fact that there has been such an effort made to harmonize these standards with California standards, because we think that's going to be critical to achieving success ultimately and making the implementation much smoother.

Now, the key thing that I would like to leave with you today -- I do have a number of remarks that probably echo what many of the speakers have stated -- but I think from our experience as, again, an enabler of industries, we believe that sound public policy can be a critical accelerator for industrial development, and we think that's embodied in this current proposal.

The reasons that we hold that view are as follows: No. 1, we do believe that sound science-based standards can drive innovation. We think that's the story of Silicon Valley; it's the story of our company. And we think that we're just now beginning to see that sort of development emerge

from entrepreneurs and others in terms of clean car development.

Our own company is in a partnership with several companies and working under a Department of Energy grant on advanced battery manufacturing techniques, so we hopefully can contribute in that area but also probably in advanced electronics.

We think that the standards as proposed are achievable. They will foster ingenuity of all kinds. I know a number of speakers have stated that really the solutions are probably unknown today. We think that that's not a pipe dream; that's probably a very real expectation because that's the story again of this Valley and the state.

But it's also very clear that at the present time we're already seeing quite a bit of direct and indirect economic development ranging from the manufacturing facility established by Tesla in Fremont, but also the indirect development that's associated with that.

When that plant, the NUMMI plant, shut down, one of the terrible consequences was that all the indirect employment withered away. We think as we start to innovate in the clean car economy, we're going to see that indirect development get

stimulated again and come back in not only this area but in many other parts of the country.

We echo the support and the comments made regarding savings for consumers. We think those are going to be very real. And we think that it's very important from a security standpoint, as several speakers have stated, as well.

Fuel and energy costs are very important critical factors for businesses today. It's become much more critical from a risk management standpoint, and anything that the administration can do to alleviate some of those concerns, we are very supportive of.

Lastly, again, in terms of industrial development, we're very supportive of the mile per gallon standard and we believe it's important that there be a domestic industry in this sector as well. And we think that while this is going to be a global effort, it's going to lead to our domestic industry being stimulated as well.

The last thing I'd point out is that in reviewing what other parts of the world are doing and comparing it to this standard, I noted that in the European Union, they've already achieved roughly the same gram per mile per standard as proposed

here, so I would certainly suggest it's achievable on that basis. So thank you for your attention this afternoon.

MS. OGE: Thank you. Mr. Don Siefkes?

TESTIMONY BY DON SIEFKES

MR. SIEFKES: Yeah, Siefkes. If you can turn to Slide 1 of that packet I gave you, I'm going to go through the first five slides.

My name is Don Siefkes, Executive Director of the E100 Ethanol Group. The E100 Ethanol Group fully supports the objectives of this program as evidenced by the White House graphic released last July.

Our group has two major concerns, though. The amount of crude oil savings the plan envisions and the dependence of the plan on credits for electric cars.

If fully implemented, this plan would save 12 billion barrels of crude oil over the 14-year period between 2012 and 2025. This represents only 26 percent of our crude oil imports for that time period. Thus, it is not possible to achieve crude oil independence by increasing CAFE alone.

You can go to Slide 2. Depending on electric cars to meet the program's objectives is a

quote "big bet; a huge bet," end of quote. That is a direct quote from Bill Ford, Jr., Chairman of the Ford Motor Company at a talk that he gave at the Commonwealth Club here in San Francisco last October 27 about his agenda.

Current lithium ion battery vehicles are not selling. Only 17,345 of the almost 13 million light-duty vehicles sold in 2011 were Chevy Volts and Nissan Leafs, a little more than one-tenth of 1%. The Volt base price is $40,000 and the Leaf's is $36,050 after their large price increase in December.

Comparably-sized and equipped gasoline versions of these vehicles, the Chevy Cruz and Nissan Versa, are at least $20,000 less than the price of the electrics.

So the question becomes, will millions of consumers spend $20,000 up front to save the $8200 over the life of the proposed standards? The answer, we believe, is clearly not.

Nissan wants to manufacture and sell 150,000 Leafs per year in this country. Even if they could do that, it would be only 1.5 million vehicles after 10 years. We have 250 million light-duty vehicles running around this country

burning gasoline. 1.5 million vehicles will not make a significant dent in the amount of gasoline or crude oil used 10 years from now.

To make a difference, we have to replace millions of vehicles, not just thousands, tens of thousands, or even hundreds of thousands.

Please don't hear me that our group doesn't like electric vehicles. We do. I worked at General Motors for 24 years as we worked on the Volt. It's exciting, it's fun, it's new, it's fresh. Tremendous acceleration. It's a gas to drive.

We have the utmost respect for GM, Nissan, Mitsubishi, Tesla, and people like the Corcorans and the Jensens on the last panel that drive these vehicles as statements. Nevertheless, absent a huge increase in energy density for the batteries -- and I mean a 1500-percent increase in energy density -- electric vehicles are not a viable strategy for making the United States independent of imported oil in any sort of reasonable time sphere.

Slide 3. What would be a viable strategy to make the U.S. independent of imported oil? E100 flex-fuel vehicles optimized to run on ethanol, not gasoline, are the most straightforward ways to do this.

Brazil did something similar to this several years ago and is now a net crude oil exporter, not an importer. The picture in front of you is of a pump at a Shell gas station in Sao Paulo, Brazil I took last April. Two grades of gasoline, regular and premium, and one grade of straight ethanol, no gasoline.

75 percent of the millions of light-duty vehicles in Brazil can burn this gasoline-free ethanol.

Go to Slide 4. We use 140 billion gallons of gasoline per year. Roughly half, 66 billion gallons, come from imported crude oil. So to make the United States independent of imported oil, we need to replace 66 billion gallons of gasoline.

The fastest, lowest cost way to do this is to make ethanol a primary motor fuel in the United States, not a blend with gasoline, but a primary motor fuel for just half of all new vehicle inventory, 50 percent. E100 vehicles could still burn gasoline, but since ethanol would cost less than gasoline at the pump and since mileage would be better, consumers would flock to these vehicles.

E100 engines are applicable to all size vehicles, not just small ones. Cost may be $100

more per vehicle. The industry could easily be making 6.5 million such vehicles per year by January 1st, 2017. 10 years of doing this and now we have 65 million vehicles not burning gasoline, that makes a tremendous dent in the problem.

This ethanol will come from waste cellulose or municipal solid waste, not corn. The Department of Energy published a report that incontrovertibly proves that there is a billion tons of waste cellulose accessible every year in the Unites States.

Yield is 100 gallons per ton so we could make 100 billion gallons of ethanol without interfering with food production or agricultural exports. This is more than enough to provide crude oil independence. So for this and carbon already above ground to make this ethanol, not bringing up new carbon from underground, the net addition of CO2 in the atmosphere with E100 is zero.

Turn to Slide 5. In conclusion, our proposal: These standards for 2017-2025 are very strong and they are exceptionally well-written. We want to compliment the people who wrote the standards. So let's keep them in place exactly as written but apply them to only 50 percent of new

light-duty vehicles.

For the other 50 percent, mandate E100 flex-fuel vehicles with strict mileage requirements. And we give you a few suggestions on the slide.

Taking these two steps will assure complete independence of imported crude oil for the United States and lower greenhouse gas emissions far below the 2017 to 2025 standards. I thank you for your attention.

MS. OGE: Thank you. Mr. Roger Lake? Good afternoon.

TESTIMONY BY ROGER LAKE

MR. LAKE: My name is Roger Lake. I have no technical perspective on all this. I thank you for my opportunity to be a citizen here.

I was invited to come by an environmental group that I send money to. The perspective I have is that I spent a career as a family therapist dealing with addictions. When we talk about addiction to oil, we talk about something that's really profound from my perspective.

The addiction, if you look at it from the perspective of the individual, the family, the community, is the dysfunctional regulation of resources.

And my concern about the public conversation that we're having here has to do with the idea that when people become overinvolved in trying to sort of pursue a particular issue of their own and become emotionally caught up in the dilemma of sort of supporting the legalization of the kinds of things that we talk about in addiction, we lose the perspective that the mind is capable of generating about what's really going on.

What happens to addicts is they can't see the forest for the trees. What happens to policymakers around addiction is we have the same problem. And I'm just inviting you to reflect on what seems to me the only cure that we have for addiction, which is to understand that it distorts our ability to regulate the resources that we have to develop the future.

In my mind, it is the children who are the future. The environment is where my children and grandchildren are growing up, and we have to keep our eyes on that particular prize.

And the public conversation around this, it seems to me, is a bit over the top in pursuing particular goals, particular stakeholders, as it were, and the ability to stand back, to use a

broader perspective to think through the issues to see down the road are what I would like you to be doing.

I would like to see the Environmental Protection Agency functioning in that way as the grownups in the room sorting through different kinds of perspectives. That's all I have to say. Thank you.

MS. OGE: Thank you. Ms. Quinn? Good afternoon.

TESTIMONY BY COLLEEN QUINN

MS. QUINN: Yeah, thank you. Good afternoon. Thank you very much for this invitation. My name is Colleen Quinn, and I am the Vice President for Government Relations and Public Policy at Coulomb Technologies.

Coulomb is headquartered in Campbell, California. It was founded in 2007 with the mission to support electric vehicles so no one will hesitate to purchase a vehicle because they don't have a way to charge.

We manufacture charging stations and develop the smart charging services that have enabled adoption of electric vehicles.

Coulomb supports the proposed standards not

only as good and important public policy, but quite frankly, for purely business reasons. These policies will help our company grow. These policies will move us towards greater oil independence, cleaner air, and cheaper transportation for consumers.

We applaud the Obama Administration for proposing historic fuel economy and greenhouse gas standards that will reduce our dependence on oil and cut carbon pollution.

I have a couple of points I want to make about the proposed standards: First of all, they are achievable, and most importantly to our company, they will drive innovation.

Automakers are already showcasing models. Many of them have testified, I saw today, such as the Chevrolet Volt. Folks in the audience are testifying to their ownership of those vehicles and the Nissan Leaf.

More vehicles are targeted in the market in 2012, including models from Fisker, Toyota, BMW and Ford. My company has developed the infrastructure and services to support the EV driver. We have leveraged the innovation of Silicon Valley's networking capabilities to create an exciting new

market.

We currently have the largest network of publicly available charging stations. We have the largest collection of drivers with over 800 companies providing charging via our network, the ChargePoint Network.

Today ChargePoint stations are dispensing over 280 megawatt hours of electric fuel each month, which is an annual equivalent of 700,000 gallons of gas avoided and 10 million pounds of CO2 emissions prevented.

Drivers plug in to a ChargePoint station more than 1,500 times every day. Over 5,000 nonresidential charging spots are up and running, serving drivers while they are away from their home garages.

50 percent of EV drivers in the U.S. use our ChargePoint card. We have over 30,000 mobile app downloads using the ChargePoint Network. This is what I'm talking about when I say innovation.

Secondly, these standards will make our auto industry more competitive and will create jobs. Coulomb has grown from a startup company in 2007 to over 200 employees today. In addition, for every charging station we deploy in a community, three

people go to work. There are manufacturing jobs as well as jobs for local electricians and contractors.

California is becoming the global center for electric vehicle innovation and jobs. Other companies besides Coulomb, from small electric drive manufacturers, are also growing very rapidly. Many have doubled their workforces or even grown faster this year.

Thirdly, the new standards will not only create the significant policy objectives that I alluded to, but they will give companies like Coulomb the direction and certainty needed to continue to invest in these technologies.

As you may or may not know, venture capital is targeted on the EV industry and we need to keep that going. Businesses in the State of California collected $467 million dollars in electric venture capital investment during the first half of this year. That equates to 69% of the global total.

There was a study done by a nonprofit called Next 10, which is a Silicon Valley nonprofit. California is now tied with Michigan, the traditional center of U.S. auto industry, in the number of patents filed for electric vehicle technologies. Both states generated 300 patents for

EV technology from 2008 to 2010.

So my purpose today is to demonstrate how important and effective the federal standards have been to a company like Coulomb. The administration should issue strong final standards in July and ensure that the EV industry can benefit from and leverage job growth, economic development, as well as energy security and environmental benefits.

On the specific issue of electric vehicles, I want to endorse the statement that was made by my colleague, Mr. Minsk, from the Electrification Coalition, that the proposed end of zero emission treatment in 2021 puts electric vehicles at a disadvantage relative to other vehicles.

And, also, if you are going to count upstream emissions, then you should count them for all vehicles. Thank you very much.

MS. OGE: Thank you. Ms. Rose Braz? Good afternoon.

TESTIMONY OF MS. ROSE BRAZ

MS. BRAZ: Good afternoon. My name is Rose Braz, and I am with the Center for Biological Diversity, our climate law institute. And thank you very much for having this hearing and having us here. I'm speaking today on behalf of our over

300,000 members and supporters nationwide, and we will be submitting more technical written comments.

We really appreciate the effort of the EPA in the sense that it should be ruled, and it's a laudable effort. We also do believe, though, the rules are not good enough. They are certainly not good enough when you look at the scale of the problems we face; and they are also not good enough when you look at what is technologically feasible and what is going on around the world.

And so while we really appreciate the fact that the rule is willing to increase fuel efficiency, we don't believe they do so fast enough, and they leave the U.S. far behind fuel efficiency standards in the European Union, Japan and China.

Rather than promoting technological innovations, these rules rely on small improvements in existing technology. And, also, rather than pushing industry to make more efficient smaller vehicles, these rules create what we're calling an SUV loophole by incentivizing industry to build more trucks and SUVs that won't have to increase their fuel efficiency standards at the same rate as passenger vehicles. And those are our three very big points of concerns for us in these rules.

And the result of these problems with the rules are they actually could end up with an increase in overall greenhouse gas emissions from our transportation center rather than a decrease.

So in regards to what we would like to see done in the final rule, we would like to see these rules significantly strengthened.

One of our main concerns is the fact that the proposed rules allow light-duty trucks and SUVs to increase their fuel efficiency at a much slower rate and pace than cars, and for many years this problem has caused automakers to build bigger vehicles so they could take advantage of these weaker standards that have caused our efficiency to stagnate behind the efficiency across the world.

And we should not make the same mistake twice; we should strengthen those standards for light-duty trucks and put them on a par with cars, and we can't afford to skew the rules in favor of more gas-guzzling SUVs and light trucks.

Secondly, all but one of the alternative standards discussed in the rules would allow overall greenhouse gas emissions from cars and light trucks to increase in 2025. And given the climate crisis, we don't believe we can afford this, and so we would

look at pushing for fuel efficiency standards in the range of 60 miles per gallon rather than 54, which is the current proposal, and real world looks more like something like 49.

And we also know that this can be done. Several speakers have testified about standards across the world and noted that the technological innovation as reached for in these rules is very, very achievable, very doable. And currently, looking at what's being done around the world, we know that to be the case.

So we fear that putting these standards, which are a step forward and we appreciate the effort in place for the next 13 years until 2025, would still leave the U.S. behind what's happening in the EU, China and Japan instead of putting it as a forefront.

Clearly, the transportation sector is the low hanging fruit here and I realize a lot can be done here, a lot is being done, and we appreciate that effort, but we hope that you will look at strengthening these rules because of the gravity of the crises we are facing when you issue the final rule. Thank you very much.

MS. OGE: Thank you. Mr. Tom Kramer?

TESTIMONY BY TOM KRAMER

MR. KRAMER: Thank you. My name is Tom Kramer, and I'm speaking today as a citizen, also a member of Environment California, a members-based environmental group.

Thank you for continuing to provide your attention to the various thoughts that are being described. I'm going to give just a point of view as a Leaf owner. And having purchased one last September, I've now driven about 4,000 miles with it, and that's approximately 1200 kilowatts.

And calculating that at about a 10 cent per kilowatt, I can get as low as six cents with my overnight charging. I spent about $120 driving my car around, which I've been overhearing the Leaf conversations, and they have been surprisingly enjoyable miles to drive around.

Compared to my 2002 Passat Wagon which gets 20 miles to the gallon, had I driven those same 4,000 miles, I would have spent about $750 to do that same thing. And over the course of a year, that's about a $2,000 difference.

And as an individual, I can't really afford to do that. And as a society and as a country, we can't afford to be spending that much money on fuel.

We need to do everything that we can to reduce those costs.

And, interestingly, that same Passat Wagon driven in 2009 in England was getting 55 miles to the gallon on the highway and easily getting 45 all over town as a diesel.

So it's clear from my own experience that it's possible for us to set high standards and that those standards can be met.

And as a sort of final note, I find that as individuals, as a society, and as a government, we do our best when the goals are achievable but high.

So whenever we can say, let's go do something that at least on the face of it looks pretty difficult where I sit, however it calculates out, 55 miles to the gallon or 60, I wouldn't be opposed to having 60, that looks daunting from here. But that's when we always do our best work; that's when we find ways to innovate, find ways to do something new. And California and America has always been great at that.

So I applaud having the standards that will help us be the best that we can be. So thank you again for your time and attention.

MS. OGE: Thank you. Tes Welborn? Good

afternoon.

TESTIMONY BY TES WELBORN

MS. WELBORN: Hello. My name is Tes Welborn. I'm here as a citizen. Thank you for holding one of these precious few hearings here in California. We in California are particularly concerned about climate change and economic issues. And California, of course, has led the nation in various ways like reducing the use of limited natural resources. So thank you for being here.

I live here in San Francisco, drive and walk and ride public transit. I applaud the rules to increase average mileage to about 55 miles a gallon. And after hearing other testimony, say why not 60? Why not 65?

These standards, even as you are proposing it, though, they will help reduce oil imports and maybe even make U.S. cars more competitive which could mean more U.S. jobs and will cut greenhouse gases.

I also want to comment that I grew up in Hawaii, and I'm concerned about the climate change threat to islands, island nations and low-lying parts of many nations. And also our nation has many flood-prone areas that will be endangered. Some of

them are important crop growing areas as well as cities.

I encourage you to make sure that the standards are as strong as they can be and that they are strengthened over the next nine years. Fix the loophole around SUVs and pickup trucks, please. We don't need anymore of those.

We do need to radically reduce the use of fossil fuels throughout all industrialized nations by applying standards like these and taking additional steps such as travel and shipping by fast train and increase public transit.

Most Americans support these standards. We can't afford not to move forward. While we all don't own or operate vehicles, we all breathe the air, we all pay the taxes for unbudgeted foreign military adventures and pollution cleanup.

I would also like to say that I support the use of waste cellulose, but I would not support the use of cropland for growing ethanol.

And, remember, that electric vehicles do have pollution generation at the source. I worked for a utility company for many years as well. So thank you very much.

MS. OGE: Thank you. Ms. Annemarie -- is

it Donjacour?

MS. DONJACOUR: Oh, I was waiting for you to say my name. Donjacour.

MS. OGE: Donjacour. Thank you. Welcome.

TESTIMONY BY ANNEMARIE DONJACOUR

MS. DONJACOUR: Thank you very much. I'm an assistant adjunct professor at UCSF, a basic scientist, a teacher, a parent, and although I'm not dressed that way today, an Occupy Wall Street activist.

I really appreciate the opportunity to participate in this process and to applaud regulation in the comfort of a hotel as opposed to protesting environmental destruction, destruction of our democracy, in the rain facing the police.

This is a relatively last minute decision on my part to be here, and I've heard just wonderful technical details and other fantastic comments by other speakers, so I'm going to limit that part of my remarks. Though I will also add a caveat; I really do think ethanol production warps American agriculture. I'm very active in the sustainable agriculture movement. And I would also encourage additional, more ambitious standards.

So you've heard about scientific evidence

of global warming. It's really an urgent human caused problem. You've heard about the ways that more efficient vehicles will increase national security and help avoid wars over oil.

And I mainly want to explain and testify to the political will that is out there to make these kinds of changes in general in the parks, in the streets, now in the small storefronts and people's homes. There is a lot going on in this regard. There is a lot of energy going towards making these kinds of changes.

I think that the young people have it as a given that we have to do this. It's not if, it's when, and how far are we going to go. And I think that the willingness to address this as a society is very much out there, and this federal regulation is a positive move to mitigate climate change and resource overuse.

I would also say that failure to act on these reasonable changes in the right direction will seriously hurt the credibility of this agency and this administration and only reinforce the notion that corporations and people who want to drag their feet are controlling our government.

The people on the streets, myself included,

are really tired of shortsighted solutions and are very excited about the long-term solutions and the positive change that we're hearing here today, and certainly supportive of these regulations that work for the common good for long-term environmental change.

Not implementing these regulations will certainly be perceived as just another betrayal by this newly awakened and very large group of active citizens in the Occupy movement, and it will be seen as something done in favor of special interests.

I'm encouraged by all the support I'm hearing for these regulations and more ambitious standards and really look forward to the implementation. Thank you very much.

MS. OGE: Thank you. Any questions from the panel? I have a question for Mr. Siefkes.

MR. SIEFKES: Yes.

MS. OGE: So your recommendation basically would suggest that we finalize a program that 50% of the mandate will be mandating 100% ethanol fuel?

MR. SIEFKES: Correct.

MS. OGE: So given the fact that today less than 1% of E85 vehicles is fueled with 85% ethanol, does your organization have any thoughts as to how

you deliver infrastructure across the country to fuel 100% ethanol vehicles starting in, I would suspect, 2025?

MR. SIEFKES: Very good question. E85 doesn't sell because you're putting 104 octane fuel into a 9:1 compression ratio gasoline engine.

It's very unfortunate that alcohol even burns in a gasoline engine. If E85 got the same mileage of gasoline, we would have switched over to it long ago, but it doesn't and it can't because it's going into a gasoline engine.

Over the last two years since our groups have been formed, we've interviewed 40 to 45 retail gasoline service stations. These people do not want to buy E85 because they know it doesn't sell.

If, however, the ethanol is put into an engine optimizer, which the automobile companies can do practically tomorrow, the situation reverses itself.

Most gasoline stations in the United States, in fact all of them -- BP doesn't own a single station in the United States; they are all franchises. So the franchisee, the private business owner, owns those tanks in the ground. Most stations have three to four tanks. One tank of

premium, the rest is all regular. The second or third tank is available to put ethanol into it.

We've had detailed conversations with the largest owner of E85 stations in the United States, Meijer. It's a local retail store system in Michigan, Indiana and Ohio. They converted 72 of their mid-grade pumps to E85, and they are totally unhappy with the amount of E85 that they sold. They're not going to take them out. The conversion cost for each station was less than $30,000.

Once a decision is made to mandate the engine to burn ethanol efficiently, the ethanol industry will ship this ethanol to these resale service stations, directly bypassing the price of the mechanism of the oil company. For the first time, there will be competition for motor fuel at the retail level.

The $25- to $30,000 investment for a retail service station is a small investment. A typical station costs $2.4 million, but they don't want to shut off $25- to $30,000. So the total cost of change is $25- to $30,000.

We're already making 14 billion gallons of ethanol and shipping it in tank cars, tank trucks, and barges all over the country. So we really only

have to make 52 billion gallons more, which we can do.

All the research, the money, the effort that you read in all the journals is on renewable fuel. Renewable fuel standards set 36 billion gallons by 2022, I think. I may be a little off on the number.

The emphasis should be on changing that engine. Once the engine is available, the fuel will just come. And these retail gasoline station guys, I'm telling you, they are America firsters; they will buy this stuff.

MS. OGE: So the issue is not the mandate. What you're saying is that if today companies calibrated their engines for E85 vehicles to do better, you would get the benefits and you would get more to the market. That's what you're saying?

MR. SIEFKES: Yes. Well, an E100 engine can also burn E85. It can burn anything.

MS. OGE: But you are saying if the E85 engine was calibrated, there would be more E85 stations --

MR. SIEFKES: Oh, sure, but you don't need the 15-percent gasoline. Take it out of there.

Basically what we're saying is at least

mandate 50 percent of the vehicles run on straight ethanol; the other 50 percent continue with electric cars, fuel cells and everything.

We shouldn't just settle on gasoline and electric. It's too dangerous to put all our eggs in one basket.

MS. OGE: Thank you.

MR. MEDFORD: Thank you very much. I think we're ready for the next panel.

MR. MEDFORD: Dr. Pepper, as soon as you're ready, you may begin.

TESTIMONY BY DR. DAVID PEPPER

DR. PEPPER: Okay. Thank you for having me. It's a pleasure to be here. I'm here on behalf of the American Lung Association. I'm a family doctor. I ran an asthma program in the Central Valley of California, and I was here for the last two panels. And a part of my comments, or a good part of my comments, are about public health which these standards will support.

The ALA is in strong support of these. I think 60 miles a gallon would be better. But one thing to realize is the huge burden commonly faced by all of us when we breathe, and the reality is whatever the car is that's in front of you is what

you are breathing.

So for every car in front of you that's getting twice the mileage or every electric vehicle -- ethanol is also cleaner -- you will be breathing less. That equates to somewhere between $5- to $10 billion dollars in terms of asthma, cardiovascular health, heart attacks, strokes, lung disease.

So there is a part of me that's a physician that speaks to that piece, and I think these are standards that will help us to move forward. There is a part of me that's a scientist; I also have a master's in science and I work on clean air because I believe the future is there.

The transportation sector; I'm also a bicyclist and I'm glad to see this is here. I think NHTSA spends about 1% of its budget on anything other than cars.

I was trying to figure out the carbon emissions per mile; obviously, it's a lot smaller. And I would, on a personal level, encourage NHTSA to include not only motor vehicles, but obviously transit and bicycle.

You know, the fuel, again, as they come out of the tailpipe are carbon, which is a greenhouse

gas; carbon dioxide, carbon in all forms, but also VOCs, NOx, sulfur dioxides. I think the ethanol is quite a bit cleaner. I don't know the specifics of that. But obviously electric vehicles are the cleanest.

All of these sources and all of this technology moving towards tighter and more stringent standards will assist in public health and assist in a cleaner and better future for ourselves and our children. I thank you.

MR. MEDFORD: Thank you very much for coming. Theodore Hadzi-Antich?

TESTIMONY BY THEODORE HADZI-ANTICH

MR. HADZI-ANTICH: My name is Ted Hadzi-Antich. I'm attorney with the Pacific Legal Foundation in Sacramento, California. We're a not-for-profit organization dedicated to protecting individual rights and freedom as well as property rights and support a balanced approach to environmental regulation.

I'm here today on behalf of four clients: Delta Construction Company, Dalton Trucking Company, Southern California Contractors Association, and California Dump Truck Association.

I just have two points that I would like to

make, the first of which I'm afraid to say raises an inconvenient truth with regard to these regulations and all of the greenhouse gas regulations thus far either proposed or promulgated by the Environmental Protection Agency.

In order to understand this inconvenient truth, I think we need to go back to December 2009 when the EPA, as you know, made the endangerment finding, finding that greenhouse gas emissions posed a danger to human health and welfare. One of the biggest problems with that finding is that EPA missed a step.

The Science Advisory Board is an organization that's been created by statute. It's been on the books since 1979, and as you know, it's a blue ribbon panel of the top scientists, approximately 40 or so scientists that are the cream of the crop in their individual disciplines.

Well, unfortunately, when EPA promulgated the endangerment finding in December of 2009, it utterly neglected to send the proposed endangerment finding to the Science Advisory Board for statutorily-mandated peer review.

That was a violation of the law. And based on the endangerment finding, the first light-duty

vehicle regulation was promulgated shortly thereafter, and that regulation did not go for peer review to the Science Advisory Board.

After that, the first heavy-duty vehicle regulation was promulgated, again regulating greenhouse gas emissions, and that regulation did not go to the Science Advisory Board. The Pacific Legal Organization on behalf of its clients challenged each one of these findings for only one reason; that is, the failure of EPA to send the regulation for peer review to the Science Advisory Board.

And the main reason I'm here today is to ask you folks who are the policymakers in connection with these light-duty vehicle regulations Phase 2 to please send this regulation, this proposed regulation before it's promulgated to the Science Advisory Board for mandated peer review under the statute.

If you do that, we won't be forced to sue you, and we don't want to sue you. We want good policy; we want good policy based on sound science. That's the purpose of the Science Advisory Board.

And one of the interesting things that I keep scratching my head about is this: Before

December of 2009, for virtually any regulation promulgated by EPA under the Clean Air Act, it sent those regulations consistently to the Science Advisory Board.

But starting in December of 2009, with the first greenhouse gas regulation, it did not send that to the Science Advisory Board for mandated peer review. So I'm here to ask you, please send this regulation to the Science Advisory Board.

And the only other point I would like to make, as I'm sure all of you are well aware, the Clean Air Act has detailed procedural requirements for rulemaking. And what I ask you is, unlike the endangerment finding, unlike the LDVR Phase I, unlike the HDVR regulation, please, again, comply with the detailed procedural requirements set forth in the Clean Air Act itself before you promulgate this LDVR-2 regulation. And that is all.

MR. MEDFORD: Thank you. Mr. Brown?

TESTIMONY BY NORMAN BROWN

MR. BROWN: Yes. Good afternoon.

MR. MEDFORD: Good afternoon.

MR. BROWN: My name is Norm Brown. I'm a second generation owner of a family construction company in California that was started by my father,

which you might call me a 48-year research scientist in how to stay in business; that's how long I have been doing this.

Currently, we have no debt, but I haven't taken a salary for the past four years because of the economic conditions. I'm trying to keep my key employees to keep my company alive. We had more than 40 percent unemployment in construction. Our volume has been cut by 80 percent from 2006 to 2010 and remains flat.

Now, when you have owned assets with low debt, this will carry you through recessions. Trucks and equipment that are paid for can be parked until the economic condition has returned at which time you can get started again.

This has all changed due to recent regulation in California. CARB, California Resource Board, particulate matter regulations has destroyed the value of my used diesel assets by making them illegal to use or sell in the state of California at some near point in the future.

The light-duty vehicle regulations are scheduled to come into place about the same time that your promulgated regulations will come into place. So I must put very expensive filters on

some, repower the balance and eventually sell or destroy regardless of condition. The filter cost exceeds the value of the trucks. The cost of logistics preclude repowering older vehicles or staying the same with sale or destroyed.

My financial statement has been destroyed as owned trucks and equipment are now liabilities, not assets, to support the financial statements. The loss of my net worth has damaged my borrowing power and bonding necessary to replace equipment and survive as a contractor.

The new proposed greenhouse gas regulations add considerably to the costs of replacement trucks as the manufacturers struggle to meet the mandates.

These combination regs can only be described as a perfect storm at the most inopportune time. California destroys my existing fleet and you raise the cost of new.

The current economic conditions mandate downsizing, not replacing assets, and return investment does not pay the cost to replace it. Small and medium-sized contractors and truckers will close the doors as existing trucks and equipment cannot be used and the new will be too expensive to replace.

And no new small businesses will be starting up in California either because they need the used equipment to get started. You can't go out and start a business and buy all new stuff; the stuff is too expensive. Unemployment will soar higher than it is, raising the cost to local and national governments while at the same time lowering tax collection due to closed businesses.

The U.S. government is already spending twice what it takes in, and that cannot continue. And this regulation will guarantee the failure of an economic recovery.

Surviving large businesses will pass the increased cost along to the consumer. This will end up being a regressive tax on those that least could afford it; those on fixed incomes whose income has been devastated by a nonexistent return on assets and investments while cost of fuel and groceries continue to increase. Oh, but they're not on the CPI, so you can't see it.

This is not a solution to the problem facing our country. Our problem is excessive spending by government along with a lack of available employment and a tax base necessary to support the government.

This regulation will only exacerbate our very serious condition in what can only be called a phantom menace while at this time unemployment is the real menace to our health and prosperity.

I can guarantee you that my firm in the 69th year, and thousands of other construction and trucking firms, will not survive the combination of these regulations outlined above and will close the doors, laying off the balance of my employees.

I recently visited my aunt who is in a rest home at 101. The rest home recommended that I consider putting her on hospice. Not being familiar with the term, I asked.

They said hospice is the term used to describe someone who has a terminal disease and within six months of the end of their life or is failing to thrive.

That is the condition of our economy today. We are failing to thrive. We are on hospice. We need no more regulations. Thank you very much.

MR. MEDFORD: Thank you, Mr. Brown. Mr. Rolleri.

TESTIMONY BY TERRY ROLLERI

MR. ROLLERI: Good afternoon. My name is Terry Rolleri. I'm just a citizen of San Francisco

here and I'm here to speak in support of the regulations.

As you might have surmised from my helmet here, I ride a bicycle. I don't actually own an automobile, and so why would I really care about fuel efficiency?

Well, I breathe the air. And when you ride a bicycle, that's what powers your vehicle is clean air. And these regulations will produce cleaner air, so I'm obviously in support of them.

The other issue I will bring up and finish briefly here is the strain that our oil dependence puts on our foreign policy here in the United States.

It's been currently in the news that the Iranians are trying to build a nuclear weapon. No one is certain. But they get a good deal of their income from oil, while at the same time they recently threatened to close the Strait of Hormuz, where one-fifth of the world's oil travels through. And a few days ago in the news, I saw that one of our aircraft carriers has arrived at the Strait of Hormuz.

Clearly, our oil dependence is problematic for our country and our foreign policy, and if we

are going to get the oil monkey off our back, we've really got to move forward with reducing our use of oil. Thank you very much.

MR. MEDFORD: Thank you very much. The next speaker is -- I can't see your name. Mr. Rosenthal?

TESTIMONY BY DANIEL ROSENTHAL

MR. ROSENTHAL: Good afternoon. My name is Daniel Rosenthal. I'm a citizen of San Francisco and thank you for holding this here.

I wanted to go through a quick hundred years of personal history. It starts with my great grandfather. In the 1890s he came over to this country from somewhere in eastern Europe; Russia, Lithuania, who knows.

For a few years, he drove a cart from Trenton, New Jersey to New Haven, Connecticut. It was a dry goods cart. Along the way, he saw this cart had solid rubber tires. Those were the tires they used in those days for the early car, and he would pick them up on his return trips and he collected them.

After a few years of collecting them, he built a rubber recycling factory, and for many years that was the basis of a sustainable middle class

lifestyle for my father's family.

For the last 30 years the factory has been boarded up. It is, as far as I know, a Superfund site.

My grandfather was an Air Force officer, a World War II vet. And while he was stationed in Europe, he was in a factory fire that exacerbated his chronic asthma. He took early retirement and he and my grandmother traveled around the West looking for a clean, dry place for him to settle so that he could breathe.

Everywhere they went -- this would have been in the early '70s -- they encountered smog, automobile smog, and it was life-threatening to him at that time.

When they got to Reno, Nevada, it turned out that the air was clean. He could breathe, he said, for the first time in two months. Then winter came after they had already moved and bought their house and the inversion layer trapped all the smog, and he spent the next two months in the hospital.

After that, every winter they would leave Reno, and on the Air Force DANTES, they would travel around the world seeking clean air. In 1995, he died on an operating room table because of

contraindications with his prednisone, which he took for asthma.

I was born in Washington D.C. in 1973, and my father was an attorney in the antitrust division of the division of the Justice Department, and he taught me three things which I think are somewhat relevant to these regulations and this issue.

The first thing is that markets are not smart. Markets, in the absence of regulation, can't be depended upon to determine the best course of action. People have biases, they work in their own self-interest, and they don't have the long view.

And that's what the rule is for; that's what we have given our authority to you for, and I'm glad that you are here using it.

The second thing he taught me was that corporations serve their shareholders, that's what they're supposed to do, that's what they are intended to do and I'm glad they do that. That's not your job; your job is to work for us, and I'm glad that you do that.

In 1983, dissatisfied with the direction of his job in government, my father quit and moved us to Hawaii, and I attended school just over the mountains. It was pretty close, about 15 miles

away, but because of traffic on that small island, I had to leave at 6:00 a.m. to get to school by 8:00 a.m., and I had to leave at 4:00 p.m. to get home by 6:00 p.m.

I was pretty well-educated and consider myself as being pretty lucky. But when people say, wow, it must have been great to grow up in Hawaii. Well, opinions differ. I mostly remember the blinking red taillights, the sitting in traffic, the roar of engines and the smell of exhaust. That's what I associate with island paradise.

My conclusion is just this: If we can bring the people who planned our automobile economy in the early 19th Century forward 100 years to witness what we've got now, I think that they would go back in time and make different decisions then they made.

Many of the decisions they made were not decisions at all. They were abdications of their authority or their responsibility, and I am very happy to see that you are not abdicating, as they did. And thank you very much for your time.

MR. MEDFORD: Thank you very much. Ms. Kishimoto?

TESTIMONY BY YORIKO KISHIMOTO

MS. KISHIMOTO: Yes. My name is Yoriko Kishimoto, and I'm here to strongly support the policies that are the subject of today's hearing.

I wear several hats. I'm a first-generation American. I serve on the Regional Open Space board currently. But I'm here mostly to speak as a former mayor of Palo Alto.

About four or five years ago as mayor of Palo Alto, I put out the call to action which was to build a green economy through innovation. And the challenge I put out was to both the businesses and the residents of our community; how can we achieve both a sustainable innovation based economy and protect the environment for the many generations to come.

And to their credit, everyone from both the business and residential communities came together to put together a very strong climate protection plan. So we did everything from zero waste, taking it to schools, renewable energy portfolios, electric vehicle infrastructure.

And I should also mention that as a local elected official, I was appointed to the Valley Transportation Authority, which is a transportation board, and also to the Bay Area Air Quality

Management District where I became Chair of the Climate Protection Committee.

So my point is that there are a huge number of things that we can do at the local government level. And we did many, if not most of them, and we are doing them. But my point today is that we cannot do it alone, and it's really clear from looking at the data from the Air District, as well as from my climate plan, that working alone at the local level, even if all the mayors and all the city council members took every step possible, we cannot achieve the 80-percent reduction below 1990 levels.

And that is the role of the federal government, and I guess California also took that initiative.

So that's my main point. I also live part-time in Mendocino County which is a very different county, much less population with less resources. And I did see some interesting numbers there. In 2002, about 19 percent of aftertax household expenditures were spent on energy, and by 2007, it had gone up to 31 percent and I suspect much higher by today. And more than half of that was for transportation.

And so, again, the federal government has a

huge opportunity to reduce the impact on the average household, especially the low income, as well as secure the energy future.

So just my two points, which is that if the federal government does -- and I hope it does -- take a leadership role, I'm sure that at the local level, city councils and mayors around the country will support you by putting in the electric vehicle infrastructure.

And the steps that we need to take at the local level, and also to remind you about the role of government, which, you know, in this political environment we are often invited to think about.

And to me, the role of government is to take collective action on issues of the highest public interest. And to me, there can be no higher public interest than climate change, which is irreversible and will have impact for many generations to come. Thank you.

MR. MEDFORD: Thank you very much. Ms. Stephensen?

TESTIMONY BY SUSAN STEPHENSEN

MS. STEPHENSEN: Hi. Thank you very much for the opportunity to comment today. I'm Susan Stephensen, representing California Interfaith Power

& Light, and we would like to strongly support the proposed vehicle greenhouse gas emissions and CAFE standards.

We think that the new proposed standard represents the best available opportunity to curb climate change, clean up air pollution, and cut America's oil dependence.

California Interfaith Power & Light works with congregations of all faiths all over the state to address global warming through energy efficiency, conservation and renewable energy.

Our 540 member congregations are working hard to do their part to protect creation by retrofitting their buildings, putting solar panels on their rooftops, and educating their communities about the moral impact of our energy choices.

But we know that our actions alone are not going to be enough to curb climate change. We need policy change at the local, state, and the federal level.

Here in California, the transportation sector is the largest contributor to our carbon footprint, and that's why our organization has been active in supporting California's efforts to reduce emissions at the tailpipe for the past decade,

including the landmark Pavley bill, AB 1493, even while the federal standards continue to lag.

So we're really pleased to be here today in support of the new proposed fuel efficiency standards. Thank you very much for your leadership. Thank you for this opportunity to comment today in San Francisco.

MR. MEDFORD: Thank you. Ms. Simoneaux.

TESTIMONY BY SANDRA SIMONEAUX

MS. SIMONEAUX: Greetings everyone. I'm Sandra Simoneaux, and I appreciate this opportunity to express my opinion on air pollution and the need for increased vehicle emission standards.

I'm a recently retired public school teacher, which gives me an opportunity to be here, and a grandmother of a two-year old girl. I'm concerned about the health of our planet and the health of all people on our planet, especially our children.

Our children's asthma rate continues to rise in my classroom, and now when I volunteer at my school, I see more children requiring the use of inhalers. Pollution is a health risk to all of us.

Our beautiful state of California is home to the worst smog pollution in the country and that

pollution is largely because of pollution from cars and trucks.

I support strong standards for vehicle emissions as an important key to this pollution problem. Doubling our fuel efficiency standards nationwide by 2025 is an important step forward in solving our problem. This will also help us in fossil fuel efficiency, decreasing our need for foreign oil, and reducing the potential for oil disasters.

As a teacher, I have always had high expectations for my students, and I see no reason to expect any less from my government. Thank you.

MR. MEDFORD: Thank you very much. Reverend Bingham.

TESTIMONY BY REV. SALLY BINGHAM

MS. BINGHAM: Good afternoon. Thank you also for the opportunity to speak. I am the Reverend Sally Bingham and I'm the Canon for the Environment for the Episcopal Diocese of California, and I'm also the President of Interfaith Power & Light.

Our organization has 14,000 congregations of all major denominations, all major religions in our network and we operate in 39 states around the

country, and we represent approximately 5 million people of faith who are very concerned about human-induced climate change.

And I would like you to know, too, that many faith leaders, myself included, drive energy-efficient hybrid or fuel efficient cars and that's because we try to practice what we preach.

And right now, we're preaching about the moral responsibility we have to act and behave as if we care about the world that we leave behind for future generations.

And that's why Interfaith Power & Light supports the EPA's 2017 and later model year light-duty vehicle greenhouse gas emissions and Corporate Average Fuel Economy Standards. And this bill is a heroic chance to require oil suppliers to slash the carbon footprint from their motor fuels, measured not just by the emissions from the tailpipes but across the whole lifecycle from extraction to combustion.

We have a moral responsibility to leave this planet at least as clean as it was when we arrived, if not more improved, and having clean cars is one way to do that.

Religious people know that we are the

stewards of creation, and we cannot sit quietly by and let our air be polluted. And when solutions like this one are available to us, we have a responsibility to God and to each other.

And to wrap up, I couldn't agree more with the U.S. Global Change Research Program who just put out a statement where the conclusion is future climate change and its impacts depend on the choices that we make today. Higher fuel standards will be a good choice.

So Interfaith Power & Light applauds Administrator Jackson and the Obama Administration for making the right moral choices to protect our planet, the climate, and our future.

And this is not part of my prepared remarks, but I just want to add that every single time there is a new regulation or anything having to do with cars, there are big challenges and oppositions. Starting with the fact that at the turn of the century when vehicles were being asked by the government to register, there was great objection for vehicle owners to register because they thought that it meant that people who still rode around with horse and carriage were at an advantage because they didn't have to register, and

there were big arguments over that. Point of interest. Thank you very much for having me.

MR. MEDFORD: Thank you. Do my colleagues have questions for the panel? Thank each you for your contributions.

MS. OGE: So we'll start with Matthew Vipond.

TESTIMONY BY MATTHEW VIPOND

MR. VIPOND: Hello, my name is Matthew Vipond. I'm here as a constituent of the Sierra Club and a citizen. I endorse these fuel efficiency standards that are in discussion today.

In 2008, I decided to change careers and go back to school. For the previous 11 years I had lived in Los Angeles where I drove upwards of 400 miles a week for freelance work.

Upon completion of my degree, I knew I didn't want to go back to my life of driving and so I chose to relocate to San Francisco, a city with access to good public transportation and decent walking.

As a native New Yorker, it was personally liberating to sell my car and become a pedestrian once again. But this enthusiasm is mitigated by the constant vehicular pollution which walkers and

cyclists must endure on a daily basis from cars, trucks and buses.

These proposed emission standards offer the opportunity not just to decrease carbon and dependence on foreign oil but also to improve our daily lives by significantly reducing the amount of exhaust we must ingest as we go about our business.

This, in turn, would encourage thousands of other like-minded individuals like me who have debated whether or not to trade the convenience of an automobile for the benefits of less congestion and stress by offering them cleaner air to breathe and an improved quality of life.

I fear an America in 2025 with an increased population, the added proportion of cars, and no standards like the ones being debated today.

Thank you very much for the opportunity to share my views with the panel.

MS. OGE: Thank you. Mr. Alan Carlton. Good afternoon.

TESTIMONY BY ALAN CARLTON

MR. CARLTON: Hello. My name is Alan Carlton. I'm the chairman of the California-Nevada Regional Conservation Committee of the Sierra Club and here on behalf of the Sierra Club.

And as you probably know, the Sierra Club supports these standards. We've been advocating for these kind of standards for a long time, and we applaud the Obama Administration and the EPA for coming up with good, strong standards.

From a personal point of view, I try to walk my talk. I got here by riding my bike to BART. I rode BART and then I walked over from the Embarcadero.

Also, I've been driving fuel-efficient cars for a long time. My first vehicle I bought was a Datsun 1200. If you remember those real little Datsuns, they got great mileage; they were good cars. And I have been driving fuel efficient vehicles ever since, and I saved a lot of money and cleaned up the air.

And when you think about these standards, with the higher mileage standards, they do several things. But the two most important things are they save people money because they get better gas mileage, and, of course, they clean up the air.

So why would anybody oppose these kind of standards that do something for everybody? I don't understand why the car companies would oppose them. American car companies have not been real

competitive lately. They had to get bailed out, as we all know. And one reason was, and I suggest the prime reason was, they insisted on sticking with gas-guzzling SUVs, and they didn't get into the forefront of fuel-efficient cars. The Japanese manufacturers, Toyota and Honda did.

That's why the Prius, you see them all over California because that's where you can get them. U.S. car manufacturers will be forced to become more efficient and get cars that people want; fuel efficient cars by these standards. And I don't see why they would complain at all. They are actually being forced to become more competitive.

And I think the other thing is I think these standards should be put in place without any exceptions. I remember the last standard had the light truck exception, and I, at one point, was looking to buy a light truck and the mileage wasn't as good. And there weren't any hybrids because they weren't forced to be applied to the light trucks, those standards.

I think these standards should apply to all vehicles, and there is no reason to accept things like light trucks. Thank you very much.

MS. OGE: Thank you. Ms. Emily Folly.

TESTIMONY BY EMILY FOLLY

MS. FOLLY: Yes, hello. I'm Emily Folly. I'm a resident of Oakland. I came here on a cable car along with the tourists today, but I felt I shouldn't drive.

And I also feel that stronger emission standards are a complete no-brainer. It's clear that global warming is the biggest challenge that's facing us as a world, as a nation, as a society. And so for this reason, we have to lower our emissions. And it's incumbent upon the government to set that standard to do that.

So I completely support all of these cleaner car standards, and I also support them from my own personal breathing of clean air and for the thought that for my children and for their children that we will leave them a world that is not in collapse.

I am reminded of the book by Jared Diamond in which he discusses societies that collapse. And one of them that he talks about is Easter Island where they have no trees and the society collapsed because they cut down all their trees.

And he has a line in there where he says, what were they thinking on Easter Island as they cut

down the last tree.

And I am constantly being reminded of that when we see what we're doing to our environment and moving down the path towards global warming.

So I completely support these standards, and I also want to be sure that nothing gets lost in the negotiations; that California doesn't lose its ability to set higher standards than the ones that are set for the nation.

I think that's extremely important, and I think that's has been borne out over the past decade or so of emissions standards. So thank you very much.

MS. OGE: Thank you. Mr. Jack Fleck. Good afternoon.

TESTIMONY BY JACK FLECK

MR. FLECK: Yes, I'm Jack Fleck. I retired last year as a San Francisco city traffic engineer, so I'm very familiar with cars and transportation.

I want to second the comment that Emily just made about global warming, and I strongly support the 54.5 mile per gallon goal. But I want to emphasize that that is just a step in the right direction; it's not going to get us where we really need to go.

The problem is it feels like kind of a negotiated number. And when it comes to physics and chemistry, they don't negotiate. We're in a world right now where greenhouse gases last year went up more than they had any other year.

We're at 390 parts per million now. That's way beyond the 350 that many scientists feel is actually sustainable. It's going up about 2 parts per million every year.

So it's just a scientific fact that we are in a warming world and the climate is changing and this is heading us towards catastrophe.

There is another fact that I'd like to point out which is that the earth can only absorb about 7 billion tons of fossil fuel generated CO2 in a year.

Now, there are about 7 billion people on the planet, so do the math. Each of us gets one ton. Well, that sounds doable. Well, the problem is the United States, we're generating about 20 tons per person. That's just non-sustainable. It has to stop.

And it may seem overwhelming, but the fact is it's doable. If we switch to 100 percent electric cars generating that electricity with

renewable power, we can do this.

In fact, I drive the Chevy Volt. It gets about 250 miles per gallon around town. I have solar panels on my roof, and it costs about 2 cents a mile to drive the car.

The technology is here. There is no reason that technically we can't do this. Economically, it's affordable. The cost of the electricity is almost exactly the same as our utility, PG&E, charges.

And all of this can be done. It's really just a matter of political will, and it has to be done for the environment's sake.

Just one other point I want to make. How come people ask, well, aren't electric cars using fossil fuels? And if you don't have a solar panel, that's true. But I like to refer to what sometimes is called Big Oil's dirty little secret, which is that it takes as much electricity to refine one gallon of gas, that an electric car can drive on that same amount of electricity, about 7 kilowatt hours, an electric car can go about 23 miles on it, and that's about what an average car gets on a gallon.

So not even counting the carbon dioxide

that's produced by the burning of the fuel, electric cars are just that much more efficient.

So one other point is the grid in California is getting greener and cleaner as the years go by, and the law has required that; whereas, fossil fuels are getting dirtier and dirtier. The tar sands, the extra heavy crude oil, drilling in the Arctic, drilling the artery deeper, with more risks in the Gulf.

All of these things are in exactly the wrong direction, whereas if we go to electrification, we can move to a cleaner and cleaner planet.

So I just want to encourage you to support this measure. It's a step in the right direction. Please don't do anything to water it down and keep an eye on it. Do everything you can to strengthen it, because the planet depends on you.

MS. OGE: Thank you Mr. Fleck. Mr. Sean Watson?

TESTIMONY BY SEAN WATSON

MR. WATSON: I'm Sean Watson. I'm the California Representative for the Pew Clean Energy Program, and I'm pleased to deliver public comments on behalf of the Pew Charitable Trust.

The Pew Charitable Trust is pleased to comment on the proposed joint rule issued by the Environmental Protection Agency and the Department of Transportation. It would require manufacturers of light-duty vehicles to achieve a fleet wide average of 54.5 miles per gallon fuel economy and greenhouse gas emission equivalent standard for model 2025 year vehicles.

The proposed rule would double passenger vehicle fuel efficiency from the level enacted in 2007, a significant increase that will save consumers money at the pump, blunt the economic and national security threats presented by oil dependence and price volatility, and help American manufacturers develop new technologies to spur investment in research, development, and production of advanced vehicles.

Pew has long supported higher federal fuel economy standards. In 2007, we worked to help achieve overwhelming bipartisan support in Congress on the first fuel economy increase in 30 years.

We also sought to inform the public and policymakers across the nation about the dangers of U.S. oil dependence to our nation's economy, national security, and to the lives of the U.S.

servicemen and woman who defend oil transit routes and chokepoints around the world.

The RAND Corporation estimates that the U.S. military spends between $67 and $83 billion annually defending oil chokepoints around the world.

The proposed joint rule for model years 2017 and 2025 incentivizes the introduction of advanced technologies that seek to decrease U.S. dependence on foreign oil. Incentives designed to spur deployment of electric and hybrid vehicle technologies in the U.S. light-duty fleet provide a clear path for auto manufacturers to invest in research, development, and production, which can improve the competitiveness of U.S. manufacturing and enhance exports to nations with growing demand.

Investment in research, development, production and deployment of advanced vehicle technologies will help vehicle manufacturers located in the United States achieve the proposed standards, and present an opportunity for the U.S. to lead in new markets such as advanced batteries which experts predict could be a $100 billion dollar global industry annually by 2030.

Pew is a strong advocate for the deployment of electric and hybrid vehicles and the necessary

charging infrastructure, which could significantly reduce oil consumption and consumer fuel costs.

While the proposed requirements set forth by EPA and DOT are aggressive and laudable, Pew strongly urges the agencies not to allow the final standards to be weakened during the midterm review period.

Pew understands that fuel efficiency standards produced by DOT are limited by the statute to five-year increments, and also appreciates the value of technological and cost review to ensure that standards are achievable.

However, we believe that federal fuel efficiency standards must remain strong in order to enhance American manufacturing competitiveness in the auto industry while protecting consumers and businesses from fuel cost volatility.

As you know, the public strongly supports reducing U.S. oil dependence through higher fuel economy. Our bipartisan poll commissioned in July 2011 found that 91 percent of Americans identify U.S. dependence on foreign oil as a threat to our national security, significant bipartisan majorities in every region of the country believe that adopting stronger fuel economy standard is the best way to

lessen that dependence.

In addition to the petition submitted to President Obama on November 1, 2011 and signed by more than 31,000 Americans, Pew has and will continue to highlight the importance of fuel efficiency with auto supply manufacturers, working families, and veterans at events around the nation.

Thank you for your consideration of these comments and have a great rest of your evening.

MS. OGE: Thank you. Also, a Ms. Vaughan, will you please come up and be part of this panel and give your testimony?

TESTIMONY BY SUSAN VAUGHAN

MS. VAUGHAN: Sure. Thank you. I'm an active member of the Sierra Club. My name is Sue Vaughan, and I'm not testifying on behalf of the Sierra Club; I'm testifying on behalf of myself. So good afternoon and thank you for all your good public work.

This morning there has been a lot of testimony in favor of the new standards and a few detractors. While I applaud efforts to increase fuel efficiency standards, I went to underscore that merely improving fuel efficiency standards -- and, according to one previous individual who testified

today, Europe now has a requirement that cars get 47 miles per gallon -- is not enough. And I want to remind all of you, there is no such thing as a "clean" or a "green" car.

As you move forward refining these rules, please take into consideration: The energy dividends.

A number of people who testified today talked about the money that consumers will save and the energy that will not be expended because of the proposed increases in miles per gallon.

However, this is a problem itself called the "energy dividend." Measures need to be put in place to ensure that saved money is not spent on expenditures of energy in other sectors of the economy. The best way to do this through energy taxes.

As it is right now, the federal gasoline tax, at 18.3 cents per gallon, has not been raised since the early 1990s. It is high time that Congress increase this tax and make it a percentage of sales so that tax increases automatically with an increase in the cost of gasoline. And I realize you are not members of Congress.

In addition, measure all sources of energy

used and carbon emitted from the beginning of a car's existence to the end of its existence when you are taking into consideration these increased fuel efficiency standards.

These sources include energy used in the extraction, transportation and transformation of raw materials and the manufacture of the car to the disposal of the car and/or its parts when its life is over.

I want to read this old newspaper article from 2004 and it's called "The Road to Nowhere," and it's about somebody who is critiquing the excitement over the hydrogen fuel cell car a few years ago. Well, nobody is excited about that car anymore. But he's just reminding everybody about all the other problems with cars:

"26.5 tons of waste and 922 cubic meters of polluted air from extracting raw materials. 12 liters of crude oil spilled into the world's oceans and 425 million cubic meters of polluted air from transporting raw materials. 1.5 tons of waste and 74 million cubic meters of polluted air from producing the car. 40.5 pounds of waste and 1,016 million cubic meters of polluted air from driving the car. And 102 million cubic meters of polluted

air from disposing of the car."

That's not to mention all the issues with land use and sprawl that are perpetuated by our car-based culture.

So where does this all get us to? Well, it gets us to what is the solution. And the solution is public transportation. It's San Francisco's Transit-First Policy which we have not quite put into place.

We are still working on that, but that is the goal, to be a become a Transit-First city and a Transit-First country where we also include our feet and our bicycles.

And this is something that appeared in an election guide this past year: "If you aggregate all energy used in San Francisco for whatever purpose and from whatever source, nearly half of all energy used in the city is petroleum-based fuel used to power cars and trucks. This counters intuitive facts as uncovered by the city's Peak Oil Preparedness Task Force and published in their 2009 report. On the other side of that coin, only 2% of all energy in San Francisco is used to power our Municipal Transportation Agency: Caltrain and Bay Area Rapid Transit. Do the math. More than 15

times as much energy is spent on cars and trucks as on public transit. Can you say inefficient use of energy? How about plenty of room for improvement?"

Okay. So the point is that what we want to do is this is a good start. We need more fuel-efficient vehicles. But, in particular, we need more fuel-efficient public transportation vehicles and we need to really change the culture in this entire country.

Because what Mr. Fleck is talking about here about having our little electric vehicles, and you think with 7 billion people on the planet do we have the resources to give every single one of those people their own electric vehicle; do we have the energy and the other resources used to do that if we are going to have an equal society? I don't think we do. Equal means public transportation and transit first. Thank you.

MS. OGE: Thank you for your testimony. Any questions for the panel? Okay. Thank you for your testimony. I think we are going to take a break.

(A break was taken at this time.)

MR. MEDFORD: We've asked that those who have been identified to give testimony in Panel 9 to

come to the table, and if you would write your name on the cards. You will be given five minutes of time to present your testimony. At the end of five minutes, you will hear a little ding-dong that will remind you that your time is up.

So Ms. Green, Mr. Gray, Mr. Katz, Mr. Arbour. I think it's Ms. Robinson, Mr. Riehl, Mr. Edeli and Ms. Klotz.

Ms. Green, it's my understanding you have been waiting for awhile and you're going to go first. And whenever you're ready, you can just identify yourself and begin.

TESTIMONY BY SUSAN GREEN

MS. GREEN: Okay. Thank you for the opportunity to speak, and forgive me, but at the end of this I'm going to need to run out immediately.

My name is Susan Green. I've been a member of the Sierra Club for at least 20 years and that's where I first heard about these hearings, although it is not concern for the environment per se that brought me here today.

I'm a pretty average San Franciscan. I work full time here in the city. I'm married with two teenage kids, so now we have four drivers in our household.

We own a house in San Francisco and two hybrid cars. And I have to add that although we knew their fuel efficiency ratings were a bit inflated when we purchased them, neither gets the gas mileage we hoped for, unfortunately. Especially not here in San Francisco with the hills.

I want to begin by thanking you for your leadership in establishing the existing standards to increase the average fuel efficiency of vehicles by 2016, and I want to voice complete support for the strongest possible standards for vehicles introduced after 2016, including caps on special treatment for trucks and electric vehicles, and test procedures that accurately measure fuel efficiency.

As you can probably tell, I am not entirely comfortable with public speaking, that's why I have written remarks. But I jumped at the chance to come and talk today because, quite simply, I believe we face no more important and immediate issue than global warming.

Climate scientists are telling us daily that we need to deploy every emissions reduction technology at our disposable as quickly as possible.

Here's just a small sample of climate science headlines and news summaries from just the

last few days:

On January 19th, NASA released data showing that average arctic temperatures rose beyond the record set in 2010, establishing a new record in 2011. Despite the cooling effects of a strong La Niña and low solar activity, they note that record ice loss and tundra melts are amplifying warming.

A headline from yesterday's Yale Environment 360 blog says that the rise in ocean acidity is unprecedented in the past 21,000 years. Unless we change the way we live, the earth's coral reefs will be utterly destroyed within our children's lifetimes.

From today's NRDC's staff blog comes the headline, "By 2020, California will face a shortfall of freshwater as great as the amount that all its cities and towns currently consume today, a consequence of projected warming and changing precipitation patterns."

Yesterday's Washington Post Wonkblog includes a post that International Energy Agency's argument that global emissions need to peak around 2017 to have a 50/50 shot at keeping global warming below 2 degrees centigrade, the most commonly agreed-upon target to avoid potentially catastrophic

impact from climate change.

The blog explains why a delay of just two or three years will make it considerably more challenging to meet that target, if not impossible.

And finally, the U.S. Energy Information Agency released its Annual Energy Outlook 2012 just yesterday which shows that U.S. energy-related CO2 emissions have just about flatlined as of 2011.

Taking into account projected savings from stronger fuel efficiency standards and other emissions reductions impact, they estimate U.S. CO2 grew but just 3 percent over the 25 years from 2010 to 2035.

That's pretty good news compared to our recent path, but it stands in stark contrast to the idea that global emissions need to decline by up to 3 percent each year starting just five to seven years from now.

And that's just to have a 50/50 shot of avoiding potentially catastrophic climate changes. Those aren't great odds to be shooting for to begin with.

And, you know, maybe the most alarming thing to me about these news releases is that they are pretty typical of what we can see every week.

And, unfortunately, we currently have no national climate strategy to get us from here to there.

I think climate activists tend to Christopher's description of our national political discussion on climate change. It's a useful way to frame discussion of where we stand now.

To paraphrase: With climate change, the political center is a balancing point between the climate scientists on one side saying this is what needs to be done, and on the other, ExxonMobil promoting business as usual, and corporate cash dominating politics in DC.

What we urgently need from your political leaders is something much different than a politically centrist climate strategy, because the political center is far less than what is necessary to yield that 50/50 chance of keeping global warming below 2 degrees centigrade.

Those of us who aren't in Washington need your help shifting that political center. More than ever, we need the EPA's scientific expertise, political skills, and your bold leadership to push for the strongest emissions reduction as quickly as possible. On behalf of my kids' future, I'm very grateful for your efforts. Thank you.

MR. MEDFORD: Thank you very much for coming. Mr. Gray.

TESTIMONY BY DAVID GRAY

MR. GRAY: Hello. My name is David Gray. I'm a resident of El Cerrito where my wife and I have lived for some 10 years now.

First off, I would like to indicate that I am a member of the Sierra Club California Energy and Climate Committee, and I'm also Chair of the Sierra Club Chapter Energy Committee for the Bay Chapter.

I would like to thank the EPA and the NHTSA folks for proposing these strong standards, and it's going to be critically important to make sure that these standards are adhered to and that no loopholes that are going to be pushed for by industry be allowed to creep in.

As the previous testimony has indicated, we are in a climate crisis. The latest results published by NOAA for the parts per million CO2 at the Mauna Loa Observatory shows us hitting 390 parts per million, and this is well over the 350 parts per million that would keep us on a path that would leave us with a habitable planet.

So I would encourage both EPA and the National Highway Transportation Safety

Administration to hold industry's feet to the fire and supporting these very strong, very good guidelines that you have put forth.

Minimizing greenhouse gases and maximizing fuel efficiency is something that's been really important to me. Effectively, I drive a car I bought in 1993 that still gets 30 miles per gallon. So those who wanted better mile per gallon vehicles, that was available at the time and it's still going strong.

My wife and I put our money where our mouth is and bought a 2007 Toyota Prius which nominally gets 51 miles per gallon. It is something that we obviously feel strongly about in terms of putting our resources into higher vehicle mileage standards.

So I really appreciate your continuing your excellent work. If there is any way to increase the vehicle MPG target, that would be fantastic. Thank you so much.

MR. MEDFORD: Thank you very much. Mr. Katz.

TESTIMONY BY ANDY KATZ

MR. KATZ: Good evening. My name is Andy Katz. I'm representing Breathe California, which is an organization with affiliates throughout the state

of California advocating for lung health and improving public health focusing on clean air and the health of our lungs and our whole bodies.

I'm here in strong support of the EPA and NHTSA proposal to extend the national program to reduce greenhouse gasses and improve fuel economy for cars and trucks. These standards are critical for today; a comprehensive plan that includes other U.S. EPA regulations and state actions to reduce greenhouse gasses.

Climate change poses a serious threat to our health, particularly in California. We have some of the dirtiest air in the country. We have several of the dirtiest air basins, and we are at non-attainment in the South Coast Air Basin, the San Joaquin Valley, and several other air basins in terms of ozone and particulate matter pollution.

So these standards will have very significant benefits to our health by not only reducing the criteria pollutant emissions in those air basins, because of the some of the effects of encouraging plug-in hybrids and electric vehicles that will reduce the combustion of gasoline in the air basin, but also by reducing global warming. And the average temperatures will reduce the amount of

high ozone days because of reducing the amount of ozone that is created on very high temperature and extreme weather of those days.

So there are very significant benefits to our health that are documented in written comments that have been presented to the agency. I would like to strongly urge the agency to adopt the most stringent option before you.

There has been some study presented to the EPA that some of the more lenient pathways, the 3.5 percent per year as opposed to the 5 percent per year, could actually have the effect of making it more difficult to have market transformation.

The regulation would be cheaper and more available to the public, provide more affordable cars to the public if there is a market transformation.

And to accomplish that there needs to be more of an availability, more of a market, more on an economy of scale. And by slowing things down, not only do we have more emissions that endanger our health and endanger our environment, but we may also make it more difficult to have a market transformation in the fleet of vehicles.

So I strongly urge the agency to adopt the

most stringent version of the rule to have the most accelerated pathway to clean cars, because the climate demands it, our health demands it, and it make sense because of the consumer and health benefits associated with the rule.

I would like to conclude my remarks and thank you for the excellent work that the U.S. EPA has done to advance this regulation.

MR. MEDFORD: Thank you very much. Mr. Arbour.

TESTIMONY BY TYLER ARBOUR

MR. ARBOUR: I also have this statement written down on my phone, so if you don't mind me staring down at that while I give it.

First of all, thank you for holding this hearing and giving us a chance to speak about this. As a graduate student in Earth and Planetary Science at UC Berkeley, I've had my fair share of exposure to this science and evidence behind the idea that humans are affecting earth's climate.

There is no longer any doubt that this is the case, and I truly believe that it is one of the most urgent issues that we've ever faced as a society.

The most likely outcomes for this scenario,

unless we do not act quickly to reduce our CO2 emissions based on the best science, are deeply troubling to say the least.

For these reasons, I feel a responsibility to share this message with as many people as I can; not just this hearing, but in general. And since there remain some who doubt the urgency of our current situation, supporting smart, proactive initiatives like this one is one way to share this message and help us move forward to a future that looks less grim.

It's no secret some big companies have an interest to resist this and similar initiatives, but I try to be practical in viewing this situation. I don't think that big companies are inherently evil; after all, even big corporations are made up of individual people just like myself.

Unfortunately, however, a narrow focus on the bottom line can easily distort the motives of individuals calling shots at these companies. And this is why we need others outside the influence of profit to give their two cents on the issues leading to a better balance between the well-being of companies, of citizens, and of our environment.

Anyone who has driven in the Bay Area --

and I'm from Montana, so it was kind of a shock when I first arrived here -- anyone who has driven here knows and can understand that vehicles and driving are a major part of our energy use and emissions.

This highlights the importance and potential impacts of this clean car proposal. And people are already interested. A recent Consumer Reports poll showed that 70 percent of respondents agree that car manufacturers should produce more fuel-efficient vehicles and that the government should increase standards and enforce them.

Fortunately, much of the technology is already there. We have impressive hybrids and electric vehicles. But the cost of these vehicles is prohibitively high for many people or families, and setting higher standards will jump start efforts to improve the technology even further and introduce a wider variety of fuel-efficient next-generation vehicles to the market.

So I urge you to strongly support this clean cars proposal. And as the previous speaker said, the strictest version of it. And big corporations have the advantage of deep pockets and lobbying power to try and resist this, and as a graduate student, all I can offer is my time and

energy. So thank you.

MR. MEDFORD: Thank you for your time and energy. Ms. Robinson.

TESTIMONY BY EMILY ROBINSON

MS. ROBINSON: Thank you for your time today. My name is Emily Robinson. I'm an undergraduate student at UC Berkeley. I'm here today with CALPIRG. They were the ones that told me about this opportunity to come speak.

I am originally from the central coast from the Monterey Bay Area which is a wonderful place to live. It's a beautiful area. But for my family, it's pretty much critical that we live somewhere along the coast, because I have a younger sister. Her name is Abby. She's 14. And she was born with cystic fibrosis which is one of the most common genetic diseases in the country. It is primarily a lung disease. The current life expectancy, if I remember correctly, is 38 years old.

When my sister was born, it became really, really important for our family to keep living on the coast. Because her lungs are so sensitive that if she were to live in an area where there was a lot of smog, a lot of pollution in the air, it would be catastrophic for her health. It's critical we

continue living in an area with clean air. It is always clear there aside from the fog, just like here.

So I'm not here to talk about the numbers. I think Mr. Green did an excellent job of really laying out the scientific bases for why the increased standards are necessary.

I'm here to talk to you on behalf of my sister, because she obviously couldn't come up here on a school night. So I'm here to tell you what it's like for her to actually be prohibited from living in certain parts of this state because of how bad the air is.

About 10 years ago, my family had an opportunity to move down to Southern California to Los Angeles, and it was a really hard decision for us. And we eventually decided not to do so because it would be so hard for us to live in that area because we would have to be so careful about choosing where we live, because the air there is so bad, and it would have been terrible for my younger sister to live in an area where the air there is so polluted, so bad for her, that it would have harmed her health just to be breathing it in every day.

And that was the motivating factor for us

to stay living where we are. We couldn't move down because of that.

And I know a lot of us take for granted clean air as being a fact. It's not something that I think about every time I take a breath. But for her it's an important decision. And it's really sad for me that about half of the state right now, at some point in her future she can't move there, she can't live there because the air is so, so bad, it's so toxic.

So I'm here today to encourage you on behalf of my younger sister and on the rest of us that breathe this air every day to please do whatever you can to raise these standards so that the air stays the way it is now and clears up so that we can keep breathing as long as possible. Thank you for your time.

MR. MEDFORD: Thank you. Mr. Riehl.

TESTIMONY BY JAMES RIEHL

MR. RIEHL: Hello. I'm James Riehl and I'm also a first year at Cal, and I'm here because of CALPIRG.

So growing up, I've always known a lot about global warming and its impacts. My family has been very good about educating me about that. We

own two Priuses and are waiting for the plug-in currently.

I honestly don't have very much to add other than I have taken an Earth and Planetary Science class and I know that if global warming is allowed to continue unchecked, the national disasters are just going to get worse.

We're going to have receding coastlines, acidification of the ocean is going on, destroying the coral reefs. There's going to be tsunamis, hurricanes, floods, everything is just going to get worse.

And it's still surprising that there is just so many people who believe global warming is a myth or that there is science to actually contradict it. So I'm definitely behind any legislation that will reduce emissions and help combat global warming.

MR. MEDFORD: Thank you. Mr. Edeli.

TESTIMONY BY TERRY EDELI

MR. EDELI: Name is Terry Edeli, and I'm a retired principal and current educator, so I'm thrilled to see the students here speaking on our behalf. It means more to them, I think, than to some of us for the future.

So in my mind I have four areas, four reasons why this is like really important to enact this program and to make it as stringent and as difficult to abate.

One is global, one is national, one is local, and one is personal.

So globally, people have spoken to it well here just the threat of global warming and climate change; it's real, it's serious.

And if this country and our EPA -- which is doing a great job under this administration which is probably the most proactive that we've had -- can't take leadership around this particular problem of global warming in this way with mileage standards, who will?

Second, national. I can't believe how much money this country sends out of the country to buy oil so that we can have cars and trucks that have poorer mileage. And it seems to me that it even causes us occasionally to go to war to protect our oil interests.

So on a national level, it seems like it's a national security issue to move towards better mileage standards that can't be escaped by any mechanism, and so I would urge you to adopt these

standards and keep them as stringent as possible.

Third, local. I'm a native Bay Area resident, and I have a strong memory when I was first teaching, I was living in Mountain View and every day, five days a week, when I came home from work, I would look up and I could not see the Santa Cruz Mountains.

So the air quality is actually better in the Bay Area now than it was before because of government leadership, and I think this is the time for government leadership.

And finally, on a personal level, cars with good mileage save money. I like saving money. So I do have a Prius, too. And my personal story is that I only have one problem with the Prius, and it's come up recently.

So I'm also a skier, so I really like good mileage because you have to drive to the mountains. But right now, Shell Oil has a promotion where they give you a free lift ticket if you fill up your car.

So I go in with my Prius empty, and I fill it up and I go to get my free ticket, and I have only gotten 9 1/2 gallons and they wouldn't give me a free ticket. So I had to buy a half a gallon of gas and put it in somebody else's car so I could get

my free ski ticket. So anyway, that's the only problem I have.

I think that it's great that you're here. It's great that you're listening to us, and I appreciate your work and I hope it goes through.

MR. MEDFORD: Thank you for your testimony. Ms. Klotz.

TESTIMONY BY MARIE-LUISE KLOTZ

MS. KLOTZ: Hi. I'm Marie-Luise Klotz, and I don't have any statistics or anything like that. I have my personal thoughts to share.

I'm German, and I live here now, but the generation of my grandparents is oftentimes confronted with questions concerning the genocide of the Second World War, which are questions like why didn't you do anything; why didn't you prevent this from happening.

And I'm here today because I don't want my kids to ask me that question one day and ask me why didn't you do anything, you knew this was happening, you could have changed it back then.

So, I'm 25 years old. I really want to have kids, but I'm really worried to bring kids into this world because it's scary and I don't want them to have to deal with an extreme situation in every

sense of word that they might have to.

So I'm really glad to be here, and I hope -- and previous people said -- that you can enforce stricter regulations, and I strongly support that. Thank you.

MR. MEDFORD: Thank you. Do any of my colleagues have questions?

MS. OGE: I just want to thank all of you, especially the young people who have taken their time to come and testify. After all, a lot of what we're doing is for you and your children and grandchildren.

MR. MEDFORD: Thank you all for coming and it was very helpful to have your testimony. Thank you for taking your time. I think we're ready for the next panel.

MS. OGE: Now we're going to Panel No. 10. Katie Perry, plus 10.

TESTIMONY BY KATIE PERRY

MS. PERRY: So my name is Katie Perry. I'm a director with the Citizen Outreach Program with Environment California. I don't have 10, but I have a few, so I brought them with me. And thanks to Sean, I was able to know about what was going on.

I've been working with Environment

California for about six months now, and basically we work on the top problems with the environment. So I'm really glad that I'm here because we're actually seeing the results of what we're working towards.

And we go out every day and talk to people on the streets about these issues about getting cleaner cars, banning plastic grocery bags, all those wonderful things, and being here right now is awesome. So thank you guys for having us.

Personally, I think obviously I wouldn't be doing this work unless I thought there was some problems with the environment and we needed to fix some things. So obviously, cleaner cars and getting our standards up is really important, especially because we're going to be doing a lot of things in the next few months.

So this is an exciting time. I have a few people and they want to say a couple things, so I'm just going to let them go.

MS. OGE: Ask them to say their names for the reporter.

TESTIMONY BY JONATHAN LEWIS

MR. LEWIS: First of all, thank you for giving me the time to speak today. My name is

Jonathan Lewis and I'm also a field manager with Environment California and actually a returned Peace Corps volunteer, so I'm really excited to be here today.

You know, in California, cars are a huge source of smog and air pollution, which we all know. Personally, I'm actually allergic to smog. I took a family trip down to LA and just became extremely sick.

So I'm really excited that we are making these strides forward. I think that as Californians and also as Americans we need to constantly be moving forward and pushing positive environmentally friendly bills like this one.

A bill pushing better mileage standards is exactly that. I truly believe that we need to continually be moving forward with proposals like this one. And, yeah, the facts are in, and it's about time. This is a major breakthrough. So thank you very much for allowing me to speak.

MS. OGE: Thank you. Next?

TESTIMONY BY KATE SALINZOK (phonetic)

MS. SALINZOK: Hi. My name is Kate Salinzok, and I'm a field manager with the Fund for Public Interest. We work with Environment

California.

Just really quickly. Actually, I lived in Alabama for five years; that's where I went to college. And two separate things that occurred there directly related to this issue are, No. 1, the oil spill, and obviously the second one would be the tornado. We were in that tornado in April, and that is directly related to global warming. And obviously the oil spill is directly related to global warming. So thank you guys so much for having us, and we really appreciate what you are doing.

MS. OGE: Thank you. Anybody else?

MR. DYER: I guess I will add a little something.

MS. OGE: Your name?

TESTIMONY BY WESLEY DYER

MR. DYER: My name is Wesley Dyer. I'm also a field manager with Environment California. I also thank you for being here and holding this public hearing and giving us the opportunity to voice these opinions.

Climate change is the most important issue to me personally. I think it is the greatest challenge that we face. And it's not just us, but

it's also for our children and our grandchildren.

And so I think that we have to take all the action we can right now to make sure that they have a life even comparable to what we can have.

So I really urge you to adopt the most stringent regulations that you can. Thank you.

MS. OGE: Thank you. Next neighbor.

TESTIMONY BY TARA LEWIS

MS. LEWIS: I'll say something. Hi, my name is Tara Lewis, and I came for Environment California. I just wanted to say that I support the clean cars because this planet is our home. We should take care of it. Thank you.

MS. OGE: Thank you. Anybody else? So Ms. Margo Aparicio?

MS. APARICIO: Yes.

MS. OGE: Good evening.

TESTIMONY BY MARGO APARICIO

MS. APARICIO: I'm Margo Aparicio. I live here in San Francisco and I'm just a plain old citizen. I do support this 54.5 mile per gallon vehicle targeted by 2025.

But you know what? It's not really enough. And the reason why I say that is because the technology for giving the American people a choice

of both electric cars and autos with gas mileage capabilities of actually 100 miles per gallon has already been in place for decades.

If you haven't watched the documentary "Who Killed the Electric Car?", please do so. It will actually make your blood boil. It did mine.

A similar quote unquote "experiment" was conducted with consumer vehicles that got 100 miles per gallon a couple of decades back. UC Berkeley happened to be one of the recipients of one of those vehicles and sued to try to keep the vehicle when it, too, was recalled and, of course, destroyed. I guess it was too much of a good thing too early on in our environment.

Please do not fall prey to the oil and auto industry's partnership, because they will be crying they'll fall into bankruptcy and go out of business and that would be worse for the world if they disappear if this proposal passes.

Because let the chips fall where they may. I really don't believe they will go under. I don't believe they need any bailouts. They have plenty to keep them going.

The American people and our environment deserve to have what the oil and auto industries are

already capable of delivering. They are just holding back on it, and I think the world deserves it.

The unfortunate situation is that there are middle class groups in emerging countries that are now just grappling for oil, and it's going to increase the destruction of the environment worldwide.

We need to be the leader, and so far we're kind of holding back. And the capabilities are there. I would just like to see even more stringent things.

We need to break our addiction to oil and its environmental destruction sooner than later, and it's not always easy or convenient for me, but I'm putting my mouth where my money is or my money where my mouth is and I gave up my car eight years ago.

I don't own one. Man, I want a car. I want one so bad, but I'm holding out for the environmentally sound vehicles. And I hope the Republican Party doesn't destroy the EPA because I know they're gunning for you. But we appreciate that you're here now and hopefully you will be around for years to come as well.

MS. OGE: Thank you. Any questions from

the panel? I want to thank all of you for taking the time especially this late in the day. Oh, there is another one. I'm sorry. Could you please state your name? Oh, Peter Barker. I'm sorry.

MR. BARKER-HOMEK: Yes. Peter Barker-Homek. I won't take it personally.

MS. OGE: I think you were with Katie Perry plus 10.

TESTIMONY BY PETER BARKER-HOMEK

MR. BARKER-HOMEK: I'm representing the Sierra Club today. By way of background, I've been an environmental activist for about 34 years, and for 28 years I've been in the energy sector working for government in one capacity or another, and that's including being an officer in the U.S. Marine Corps, economic analyst for the U.S. Department of State, and then working in utilities in the U.S., and oil and gas companies in the U.S. and overseas, Southeast Asia, Latin America, Europe, and Middle East. So my comments kind of come from that journey in life.

Greed is the only obstacle to achieving a mile per gallon standard of 54.5. It's not your greed or my greed but oil company, oil company lobbyists and their puppet politicians' greed who

will stand in the way of the right decision.

The EPA has the support for this initiative; two-thirds of Americans polled, 19 auto manufacturers which represent 90 percent of the cars sold in America today, and the United Oil Workers.

Not issuing the 54.5 mile a gallon standard will continue and deepen America's dependence on foreign oil and foreign refineries. America will continue to finance dictators, terrorists, and human rights abusers.

The technology exists today to set U.S. on the right path; the path that will save four billion barrels of oil, make $400 billion available to reinvest into our economy in productive ways, put $4,000 in each car buyer's pocket, reduce many of the health risks caused by mobile source pollution -- lung damage, asthma, premature births and deaths, heart disease, eyes, skin irritation, cancers -- and lost work days which measured at 2.8 million in California alone.

I, we, call on the EPA to issue strong final standards in July and ensure any flexibilities in the standards don't dilute our oil savings or pollution reductions.

When testing vehicles to comply with these

standards, the agency's current test procedures overestimate efficiencies by about 25 percent. It's critical that the agency develops new, accurate test procedures. Thank you very much.

MS. OGE: Thank you. Mr. Carroll?

TESTIMONY BY SEAN CARROLL

MR. CARROLL: Hi. My name is Sean Carroll. I'm the federal field associate from Environment California. And Environment California is a statewide environmental advocacy group, and I'm here to represent our 50,000 citizen members and the 250,000 people that we will talk to face to face in the next couple of months about these issues to build our resources, educate them, mobilize our grassroots base.

I want to thank you guys for having this hearing and I want to welcome you to our great state. And I want to start off by going through a few things that make this state so great.

One is our cities. So cities like San Francisco, Los Angeles, San Jose, San Diego are some of the most diverse, both racially and culturally, civic centers in the world. We have places like Silicon Valley. We have intellectual hubs like UC Berkeley, UCLA. We have one of the most robust

community college systems in the entire country; 150 community colleges.

In addition to that, we also have some of the most important forests and parks in the entire world. Places like Yosemite, the Redwood forests and the Sierras. And then we also have one of the most beautiful coastlines in the entire world. Places like Malibu, Big Sur, Monterey, Santa Cruz.

And I mention this not only because Californians take a lot of pride in their state, but because Californians identify with these places and these are the places that are at risk from air pollution, oil dependence and global warming.

The first one is smog. We talk about our cities. California has six of 10 smoggiest cities in the country. We heard multiple people talk about how these intellectual hubs are threatening people's health every day.

The second is our forests and our parks, and we see things like increased wildfires from the threat of global warming. We see the destruction of the native plant species. And then, of course, there is our coastline and the threat of our dependence on oil.

It's not being an extremist or radical to

not be worried that in my lifetime or my children's lifetime places like San Francisco could be under water.

Next week will be the 23rd anniversary of the Santa Barbara oil spill. When that happened, it was the largest oil spill in this country's history. It's now the third largest.

If you talk to people in California who were in Santa Barbara when that oil spill happened, they can tell you horrific stories; stories that are matched by people that lived in Los Angeles in the late '70s and talking about walking outside and their eyes burning from the air quality.

There is a phrase that's pretty common, which is that with great challenges come great responsibility, and I wanted to -- sorry, with great power comes great responsibility. I wanted to change that a little bit to "With great challenges come great leadership."

And California has done that and has lead the way. We are the first state to pass a cap on global warming pollution. Other states have followed. We were the first state to invest heavily in rooftop solar. And as of today, there are only five countries in the world that have more rooftop

solar than in California, and we were the first state to pass a clean cars law like this.

Other folks are following and now the federal government, we're proud to say, is following along.

I'm here to speak on behalf of our members to say that California needs to continue to have that authority to set the strongest standards. We need it because we have a lot to lose here in the state. We need it because it's what the folks in California want.

And so we're here to represent our folks to applaud you in what you're doing in your leadership and thank you for holding these hearings and to ask you to make sure that we can continue to push the envelope forward.

Because while this is the largest step our country has ever taken to cut our dependence on oil and reduce global warming pollution, it is not the solution to either of those problems. And so, thank you very much.

MS. OGE: Thank you, Mr. Carroll. Any questions? Again, thank you, all of you. Thanks for taking the time.

MR. MEDFORD: So I think that concludes the

hearing. We want to thank everyone for coming. And this is the end of a series of three hearings. Thank you very much.

(Proceedings adjourned at 6:42 p.m.)

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CERTIFICATE OF REPORTER

I hereby certify that said proceedings (pages 191 through 300) were taken at the time and place herein set forth; that the proceeding is a true record of the testimony as reported by me, a duly certified shorthand reporter and a disinterested person, and was thereafter transcribed into typewriting by computer.

I further certify that I am not interested in the outcome of the said action, nor to their respective counsel.

IN WITNESS WHEREOF, I have hereunto set my had this 2nd day of February 2012.

Dated:

CHERI WINTER, CSR #12792

STATE OF CALIFORNIA)
) SS.
COUNTY OF SONOMA)

I hereby certify that said proceedings (pages 1 through 190) were taken at the time and place herein named; that the proceeding is a true record of the testimony as reported by me, a duly certified shorthand reporter and a disinterested person, and was thereafter transcribed into typewriting by computer.

I further certify that I am not interested in the outcome of the said action, nor connected with, nor related to any of the parties in said action, nor to their respective counsel.

IN WITNESS WHEREOF, I have hereunto set my hand this 2nd day of February 2012.

Deborah E. Taggart

DEBORAH E. TAGGART, CSR NO. 5942
STATE OF CALIFORNIA