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Written Statement

Chairman Whitfield, Ranking Member Rush and other members of the Committee, I appreciate the opportunity to testify on the subject of alternative fuels and advanced technology vehicles.

In accordance with the requirements of the Clean Air Act and the Energy Independence and Security Act of 2007, EPA is playing an important role in the development of alternative fuels and advanced technology vehicles. EPA's light- and heavy-duty vehicle greenhouse gas rules under the Clean Air Act, in conjunction with the National Highway Traffic Safety Administration's (NHTSA) fuel economy standards, will drive production of a new generation of cleaner, more efficient vehicles that will save consumers money and help reduce our dependence on oil. Through the issuance of updated fuel economy labels developed jointly with the Department of Transportation (DOT), EPA also plays a role in helping consumers to make informed choices about new vehicle purchases. In addition, the renewable fuel standard program administered by EPA reduces oil consumption, helps strengthen rural economies and has the potential to achieve significant reductions in greenhouse gases. Finally, EPA is taking a number of other actions, including our recent alternative vehicle fuel conversion rulemaking that will broaden the availability of alternative fuels and alternative fuel vehicles.

Vehicle Greenhouse Gas Emission Standards

In 2010, EPA and NHTSA finalized a national program setting standards to cut greenhouse gas emissions and increase fuel economy of cars and light trucks for model years (MY) 2012-2016. Consistent with the auto industry's recommendation to extend the national program beyond 2016 to support the industry's ability to do long-range planning,¹ the two agencies developed and, in November 2011, proposed additional light-duty vehicle standards for MY 2017 through 2025. The MY 2017-2025 proposal calls for vehicle manufacturers to meet, by 2025, a CO₂ standard projected to be equivalent to 54.5 miles per gallon on an average fleet-wide basis, if the standard were met through fuel economy improvements alone. The agencies identified wide-ranging opportunities for reducing greenhouse gas emissions and improving fuel economy, and the proposals allow for long-term planning by manufacturers and suppliers to continue development and deployment of fuel-saving and emissions-reducing technologies. The proposed program provides compliance flexibility to manufacturers through a credit banking and trading system to reduce the overall cost of the program, and to provide incentives for manufacturers to produce and sell the most advanced vehicle technologies.

These programs, based on intensive consultation between the federal agencies, auto makers, the State of California, and other stakeholders, provide substantial benefits that far outweigh their costs. Over the life of MY 2011-2025 vehicles, the light duty standards (including NHTSA's 2011 CAFE standards) will save an estimated \$1.7 trillion for consumers and businesses and cut America's oil consumption by 12 billion barrels, while reducing greenhouse gas emissions by 6 billion metric tons. The standards are estimated to reduce demand for oil by 2.2 million barrels/day by 2025. Consumers, on average, will see fuel cost savings of about \$8,000 for an

¹ Dave McCurdy, President and CEO, Automobile Alliance, April 1, 2010 press release. See also November, 2009 comments on the 2012-2016 rule by several auto manufacturers.

average 2025 vehicle (compared to the average 2010 vehicle) over that vehicle's lifetime.

Importantly, many auto manufacturers have publicly expressed their support for the new standards.

EPA's and NHTSA's recently issued heavy-duty vehicle standards provide similar types of benefits. In August 2011, EPA and NHTSA issued the first ever greenhouse gas and fuel economy standards for trucks and buses. These standards will jointly reduce fuel use and greenhouse gas emissions from medium- and heavy-duty vehicles, which range in size from the largest pickup trucks and vans to semi trucks. EPA and NHTSA developed the program for MY 2014 to 2018 with support from industry, the State of California and environmental stakeholders. Even though the regulation doesn't become binding until MY 2014, manufacturers are already certifying some models to the new standards, as a way of generating early credits under the program.

The agencies estimate that the joint heavy-duty truck standards will reduce CO₂ emissions by about 270 million metric tons and save about 530 million barrels of oil over the life of MY 2014-2018 vehicles, providing \$49 billion in net program benefits. Owners of model year 2018 trucks will enjoy net savings of \$73,000 over the lifetime of a tractor-trailer. Using technologies commercially available today, EPA estimated that many medium- and heavy-duty vehicle owners will see a payback period of less than one year; others will see payback periods of up to two years.

Updated Fuel Economy Labels

In recognition of the emergence of advanced technology and alternative-fueled vehicles, EPA and DOT in 2011 jointly issued new fuel economy and environmental labels that will be displayed in the windows of all new vehicles. These revisions represent the most dramatic overhaul in EPA's 35-year history of labeling vehicles. The new labels will provide, for the first time, comprehensive fuel economy and environmental ratings for electric, plug-in hybrid, CNG, and fuel cell vehicles, as well as the more conventional gasoline, flex-fuel, and diesel vehicles. The labels highlight the fuel savings or increased costs that consumers will experience when using

the labeled vehicle over five years, as compared to fuel costs for the average vehicle – whether that fuel is gasoline, electricity, hydrogen or CNG. This will allow people to easily factor in fuel costs as they consider what vehicle they want to buy.

Renewable Fuel Standard Program

Biofuels are a critical part of the evolving alternative fuel landscape. On March 26, 2010, in response to the Energy Independence and Security Act of 2007 (EISA), EPA promulgated regulations to implement revisions to the national renewable fuel standard program, commonly called the RFS program. These provisions established new year-by-year volume standards for renewable fuel that generally must be used in transportation fuel, reaching a total of 36 billion gallons by 2022. This total includes 21 billion gallons of total advanced biofuels, comprised of up to 16 billion gallons of cellulosic biofuel, at least 1 billion gallons of biomass-based diesel, and the remainder consisting of “other” advanced biofuels. The revised statutory requirements also include new definitions and criteria for both renewable fuels and the feedstocks used to produce them, including new greenhouse gas emission (GHG) thresholds.

The RFS program will provide both energy security and environmental benefits. If the statutory RFS targets are fully met, we estimate that the greater volumes of biofuels required by EISA will decrease oil imports by \$41.5 billion dollars. The RFS is also projected to reduce GHG emissions from the transportation sector by an average of 138 million metric tons of CO₂ equivalent per year when the program is fully implemented – equivalent to annual emissions produced by 27 million vehicles.

The RFS program will help to expand the use of advanced biofuels, especially cellulosic biofuels, which under EISA must achieve at least a 60 percent reduction in lifecycle GHG emissions compared to the 2005 baseline average gasoline or diesel fuel that they replace. EISA requires EPA each year to publish the annual standards for total, advanced, biomass based diesel,

and cellulosic renewable fuels. The statute directs EPA to determine the projected volume of cellulosic biofuel production for the following year, and if that number is less than the volume specified in the statute, EPA must lower the standard accordingly. EPA also has the discretion to lower the advanced biofuel and total renewable mandate up to the same amount that the cellulosic biofuel volume is reduced.

Before proposing annual volume standards, EPA conducts a thorough review of the cellulosic industry, including one-on-one discussions with each producer to determine its individual production capacity. EPA also consults directly with the Department of Agriculture, the Energy Information Administration, and the Department of Energy's Office of Biomass to determine the status of production capacity and capabilities of the cellulosic sector. Since these evaluations are based on evolving information about emerging segments of the biofuels industry, and may result in the applicable volumes differing from the statutory targets, we propose the annual volume standard through a transparent rulemaking process, allowing for public review and comment, prior to finalizing the standards.

As a result of limited production capacity, EPA determined that it was necessary to reduce the cellulosic standard to about 6.5 million gallons for 2010 and 2011, and 8.6 million gallons for 2012 – substantially below the EISA targets of 100, 250, and 500 million gallons, respectively, for those years. However, the required volumes for total advanced biofuels and total renewable fuels were not correspondingly reduced for 2012 from the statutory target. This summer, we plan to finalize 2013 biomass diesel volume levels and to propose 2013 RFS volume standards along with 2014 biomass based diesel volume levels (because biodiesel standards are required earlier than other renewable fuel categories under EISA).

The biofuels sector is a dynamic one, and we frequently hear from companies that are in various stages of developing fuels based on innovative new production techniques or different

types of feedstocks. We recognize the importance of evaluating and qualifying such new biofuels, where appropriate, for use in the RFS program. We already have a significant list of qualified advanced and cellulosic biofuels approved in the current RFS, including biodiesel and renewable diesel from certain feedstocks; ethanol from sugarcane; biodiesel and renewable diesel from algal oil; ethanol and diesel from approved cellulosic feedstocks; and jet fuel and heating oil from certain feedstocks.

We have also established a process to evaluate new biofuels for approved use in the RFS program, including an analysis of life-cycle GHG impacts that are based on the best available science. Last year we added canola-based biodiesel as an approved pathway and approved a number of other new technology-based pathways. Most recently, we completed and made public our preliminary lifecycle greenhouse gas analysis of ethanol made from grain sorghum, and we hope to finalize that analysis later this year. Furthermore, we have a number of additional petitions requesting evaluation of new biofuel production processes and new feedstock pathways. We are currently in the process of evaluating each of these requests, working in coordination with the Department of Agriculture and the Department of Energy, and are moving as quickly as practicable to complete and issue final determinations. Further, there are other technologies and feedstock pathways that offer the potential for producing new, cellulosic or advanced fuels in the future.

E15 Status

Under the Clean Air Act, EPA may approve a waiver to allow the sale of fuel mixtures that are not “substantially similar” to gasoline if it can be demonstrated that the vehicles and engines using the fuel will continue to meet their emission standards over their “full useful life.” In 2010, based on the available evidence, including extensive test data developed by the Department of Energy and other researchers, EPA granted partial waivers raising the permissible concentration of

ethanol in gasoline to 15 percent for use in MY 2007 and newer. A second partial waiver was granted in January 2011 for MY 2001 and newer light-duty motor vehicles. These waivers did not approve the use of E15 in any other gasoline-powered vehicles or engines such as lawnmowers and boats. EPA placed several conditions on the waivers to reduce the potential for misfueling with E15 (meaning using E15 to fuel a vehicle that has not been approved to use this fuel), including labeling pumps dispensing E15, tracking E15 distribution on product transfer documents and conducting retail station surveys. EPA also issued regulations that apply more broadly, to fuel marketers as well as fuel producers, that prohibit anyone from misfueling with E15. EPA has now registered over 65 companies to market E15 and has approved over 50 companies' misfueling mitigation plans, and over 80 companies have enrolled in an approved national compliance survey program.

Alternative Fuel Vehicle Conversions

In addition to the foregoing, EPA also has taken steps to simplify and streamline the approval process for the introduction of alternative fuels and vehicles into the auto sector. While the vast majority of vehicles in the United States are designed to operate on gasoline or diesel fuel, clean alternative fuel conversion systems allow gasoline or diesel vehicles to operate on alternative fuels such as natural gas, propane, alcohol, or electricity. EPA recognizes the value of clean aftermarket technologies that enable broader transportation fuel choices. At the same time, EPA is responsible for ensuring that all vehicles and engines sold in the United States, including clean alternative fuel conversion systems, meet emission standards.

Last year, we finalized an “alternative fuel conversion” rulemaking to simplify and streamline the process by which manufacturers of clean alternative fuel conversion systems may demonstrate compliance with these vehicle and engine emissions requirements. The new

options established through this rulemaking have reduced economic and procedural impediments to clean alternative fuel conversion systems while maintaining environmental safeguards to ensure that acceptable emission levels from converted vehicles and engines are maintained. Already, EPA has deemed some 240 conversion systems compliant under the new program. EPA is also working with the nonroad industry to determine how to facilitate alternative fuel conversions under existing authorities for the legacy fleet of diesel engines.

Conclusion

We are currently witnessing a period of unprecedented innovation with respect to the development and introduction of new fuels and new vehicle technologies that hold the potential to reduce our dependence on foreign oil, save consumer dollars, and reduce environmental impact. EPA recognizes the value of these fuels and technologies and is playing a supportive role through the implementation of our statutory responsibilities under the Clean Air Act and EISA.