

**Testimony of Zoe Lipman
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Before the U.S. Senate Committee on Environment and Public Works

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Mr. Chairman and Members of the Committee,

Thank you for the opportunity to testify before the committee today regarding, “Promoting American Leadership in Reducing Air Emissions through Innovation.” The BlueGreen Alliance (BGA) unites America’s largest labor unions and its most influential environmental organizations to solve today’s environmental challenges in ways that create and maintain quality jobs and build a stronger, fairer economy. In our work, we see every day that the innovation being carried out by workers and companies across America to meet our pollution and climate challenges is not just important to the environment it is a critical driver of American competitiveness and job growth.

Worldwide, the race is on to deliver better energy, transportation, and infrastructure to more people in ways that don’t pollute, are more efficient, and use fewer resources. The places that can meet these needs first, best, and can continue to do so, will have a powerful leg up in the future economy. Today we are seeing some powerful progress, but that didn’t happen by accident. It was a combination of creativity and innovation, major investments and smart technology, manufacturing, and regulatory policy that made this possible. If we are going to protect and build on these gains, we are going to need to continue to use all the tools in our toolbox.

We share the enthusiasm of others on the panel around the innovation happening in today in America both to build technology that cuts air emissions and to improve manufacturing processes to make them more efficient and lower polluting.

We support the nation’s invaluable network of national labs and the critical technology programs at the Department of Energy (DOE) that build on the expertise of the labs. These efforts bring together scientists and industry in collaborative initiatives around strategic technologies that become the jumping off place for a profusion of private sector products and processes.

And we underscore the critical importance of commercialization and manufacturing programs like the Advanced Technology Vehicles Manufacturing loan program, the Advanced Manufacturing Office and programs at DOE, the Manufacturing Extension Partnership at Commerce, and others—that help ensure we turn innovative technology into equally innovative, globally competitive manufacturing and jobs in America. It’s not enough to invent and use the best cleanest technology in America—we need to build it here too.

I'd like to note, in particular, our support for efforts to improve the energy efficiency and energy competitiveness of intrinsically energy-intensive heavy industry and materials manufacturing. The result, as you'll likely hear from other speakers today, is that America's steel and aluminum manufacturers, for example, are some of the cleanest, lowest emitting, and most productive in the world, while upholding good wages and high labor standards at the same time. In return, however, our tax, trade, and international agreements should also include sound environmental and labor standards that help us support and defend the industrial leadership being shown by companies here, not undermine them.

But equally important to sustaining the innovation we're seeing today in cutting air emissions are sound, long-term, globally leading standards. A sound regulatory framework is critical to provide companies with the certainty necessary to make large long-term investments in innovation at scale.

For a vivid example of how regulations have worked not just to cut air emissions but to dramatically spur innovation, investment, and the job growth that follows, look no further than the car in your driveway.

Over past decade, the auto sector has been transformed—not just the car makers themselves, but the huge network of suppliers and manufacturing that is connected to them. Under the current fuel economy and vehicle greenhouse gas standards, not only has the industry achieved major improvements in efficiency and cuts in emissions, but the industry has returned to profitability and growth, and has built great innovative cars, SUVs, and trucks that consumers have snapped up at record levels. The major efficiency gains occurring in vehicles of all types are also saving consumers billions of dollars a year, enhancing America's energy security, and underpinning a gradual recovery of U.S. manufacturing as a whole.

BGA is engaged in ongoing research that demonstrates that the standards, together with smart manufacturing policy, have been a critical driver of this innovation, investment, and growth, and are equally critical to sustaining it.

In June, we joined with the Natural Resources Defense Council (NRDC) to release a report identifying manufacturers nationwide of the automotive technologies that specifically go into increasing fuel economy and cutting emissions.

We found over 1,200 factories in 48 states and 335 congressional districts—and almost 300,000 workers—building the clean and fuel efficient technology that goes into today's innovative cars and trucks.¹

This is two and a half times as many factories and engineering facilities, and almost twice as many workers, as we found in a similar study in 2011. But even that impressive growth doesn't fully capture the recovery of a dynamic, innovative, far more competitive automotive manufacturing supply chain and industry.

¹ Natural Resources Defense Council and Blue Green Alliance, *Supplying Ingenuity II: U.S. Suppliers of Key Clean, Fuel-Efficient Vehicle Technologies* (June 2017). Available: <https://www.bluegreenalliance.org/resources/supplying-ingenuity-ii-u-s-suppliers-of-key-clean-fuel-efficient-vehicle-technologies/>.

For example, many in the public have probably heard that today's Ford F150 pickup truck is more fuel efficient and more powerful than the same truck in 2010, and that that has something to do with the new materials the truck uses. In fact that truck—and virtually every new vehicle in America—is significantly lower polluting. The F150 is a very popular vehicle, but still makes up only a small percentage of the vehicles on the road. Nonetheless, the fuel saved by F150s built since fuel economy standards began implementation in 2011 alone, cuts carbon emissions equivalent to the total electricity use of the city of Boston.²

Achieving those gains required innovation not just in vehicle design and assembly, robotics, and training by Ford in Michigan and Missouri, but by aluminum companies in new types aluminum, aluminum treatment, and aluminum joining in Tennessee and Iowa (and many other locations). It required steel companies in Ohio, Indiana, and elsewhere to develop and manufacture innovative steel chemistries and processes to create the new light weight, high-strength steel for the vehicle frame. Ford holds several hundred patents for elements of the efficient EcoBoost engine, which powers the F150 (and vehicles across its fleet), and has made multiple rounds of retooling investment in the engine plants that build it just since 2011. The company that makes the F150's efficient electric power steering faced bankruptcy in 2009, but today is the biggest employer in Saginaw county, Michigan, and is looking forward to lead in drive systems for autonomous vehicles as well.^{3,4}

Just these few examples—and they are just a few out of dozens if not hundreds in the F150 alone—represent billions in automaker and supplier investment and likely hundreds of millions of dollars more than business as usual. They represent real factory investments and jobs coming back to communities all across America, and they represent a rebuilt, innovative, interconnected, globally competitive automotive supply chain in America. Certain long-term leading standards are essential for companies to continue to be able to make these large, long-term investments, and to make them here.

Worldwide, transportation technology is changing fast, and all across Europe and Asia countries are looking to lead in the next generation of vehicle technology. We have demonstrated in the U.S. auto sector that with the right tools, we can come back and lead. And this would be no time to take the foot off the gas.

We need to keep the powerful trend of innovation going in the transportation sector, but this success also has lessons across the energy and industrial sectors. We know what the tools are—whether support for R&D and technology development, or for commercialization, manufacturing, or workforce investment; or the clear regulatory framework necessary for investment to innovate at scale—and we need to use them all, to ensure that we invent the next generation of technology, build it here, and build good jobs in America doing so.

Thank you and I look forward to answering any questions you may have.

² BlueGreen Alliance, "Combating Climate Change 426,000 Pickup Trucks at a Time," June 2016. Available: <https://www.bluegreenalliance.org/resources/combating-climatechange-426000-pickup-trucks-at-a-time/>.

³ Ibid.

⁴ *Supplying Ingenuity II*