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Good morning Chairman Chabot, Ranking Member Velázquez, and members of the House Small Business Committee. My name is Kimberly Glas, and I am the Executive Director of the BlueGreen Alliance. On behalf of my organization, our national labor unions and environmental partners, and the estimated 15 million members and supporters they represent, I want to thank you for holding these hearings today on, "The New Faces of American Manufacturing."

In 2006, the United Steelworkers and the Sierra Club formed the BlueGreen Alliance with the belief that creating good jobs and protecting the environment were not mutually exclusive. In fact, in this increasingly globalized economy, we could no longer choose between jobs and the environment. We can and must have both.

Since then, the BlueGreen Alliance has worked to create and maintain quality, family-sustaining jobs while also addressing our greatest environmental challenges. Our unique national partnership is dedicated to creating good jobs, a clean environment, and a fair and thriving economy.

The clean energy economy is growing. A recent report by Environmental Entrepreneurs (E2) found that more than 2.5 million Americans work in clean energy. Using data from the U.S. Bureau of Labor Statistics and the Department of Energy, the report found that there are 1.9 million jobs in energy efficiency and more than 400,000 in renewable energy.[i]

At the center of all of our work is strengthening American manufacturing—driving new business and quality job creation across the clean economy. As the world moves to a cleaner, more efficient economy, there is a significant opportunity to ensure that that these technologies—which are largely developed in the United States—are also produced here, creating good jobs and strong communities. Building and industrial energy efficiency, renewable energy, and advanced technology vehicles—these industries are growing rapidly and it is imperative that the United States commit to ensuring that they create quality jobs and strong communities in every corner of our country. The long-term health of the U.S. economy—and the prosperity of our families and communities—depend on American leadership in these industries.

A number of years ago, the BlueGreen Alliance Foundation created the Clean Economy Manufacturing Center, which works directly with small manufacturers to help them identify opportunities and overcome obstacles to entering clean energy supply chains. The Center has worked hands on with hundreds of small companies, providing technical advice, research support, and training to aid them in evaluating capabilities and potential for becoming suppliers in key sectors of the clean energy economy. Over the past few years, and working with government initiatives like the Manufacturing Extension Partnership, this program served more than 1,200 companies nationally, including 100 companies that requested customized technical assistance.

The manufacturing industry is core to the American economy and—while there have been success stories of growth—significant challenges remain.

Challenges to U.S. Manufacturing

Manufacturing comprises a diverse market basket of goods and service production worth $2.08 trillion—or 12.5 percent of U.S. Gross Domestic Product, and supports 17.4 million jobs with 25 percent higher compensation than the U.S. economy overall.[ii] However, the U.S. manufacturing sector—a key driver to our economy—has faced significant challenges in recent years.

According to the Economic Policy Institute, the United States lost more than 5 million manufacturing jobs between January 2000 and December 2014, thanks to destructive trade and tax policies and other measures that contributed to a growing trade deficit and an un-level playing field for American manufacturers—both large and small. Since the recession of 2007-2009, an estimated 900,000 of the 2.3 million manufacturing jobs lost during that period have been recovered.[iii] However, a lack of adequate resources to enforce trade rules, in addition to currency manipulation and failed trade policies, risk turning back the clock and further exacerbating these threats to American manufacturers.

Meanwhile, incentives remain for manufacturers to offshore production to lower wage locations with weak labor and environmental standards—in what amounts to a race to the bottom. For example, the United Steelworkers—a founding member of the BlueGreen Alliance—represent workers at a Carrier Corporation facility in Indiana. The company announced in February that it would close that facility—which produced HVAC systems—outsourcing 1,400 jobs to Mexico.[iv] As we have seen over the last decade or so, when manufacturing jobs are lost, communities, workers, and local tax bases are devastated.

This also presents a significant challenge when it comes to addressing climate change. When the United States imports manufactured goods from locations across the globe, the carbon intensity to make manufactured goods in that part of the world is contributing more greatly to climate change. For example, steel produced in China—a country that produces nearly half the world's supply—is more carbon intense than that which is produced in the United States.[v]

Other challenges also remain to manufacturers in the United States who are seeking to grow. We thank the House and Senate for their recent longer-term extension of critical federal incentives to grow renewable energy—the Production Tax Credit (PTC) and Investment Tax Credit (ITC). Policy uncertainty or inconsistency at federal level, however, has stunted industry growth in the past, and remains a concern at state level. An uncertain policy climate means inconsistent demand for new energy technologies, such as wind turbine manufacturing, and in turn for manufacturing the components and materials that go into them. In addition, while the U.S. has a variety of incentives to spur adoption of clean

energy and efficiency, there are relatively few incentives for energy efficiency or clean energy manufacturing.

Opportunities for Growth

In these challenges, however, we see significant opportunity. Domestic and global markets for energy efficiency, renewable energy, transportation technology, and infrastructure are growing rapidly, resulting in potential opportunities for manufacturers across the sector. In our work, we see a particular opportunity for manufacturers to meet the growing demand for building and industrial efficiency. In addition, there is tremendous opportunity to modernize our public infrastructure, particularly in the manufacturing of components for America's passenger rail and transit sectors, and ensuring that we fully leverage the dollars we spend on infrastructure to drive clean, high quality American manufacturing and good job growth. It is also essential to ensure that the recovery of manufacturing and jobs in the automotive sector grows as technology continues to advance.

Growing the U.S. Manufacturing Base Through Energy Efficient Retrofits

One of our newest efforts is our Energy Efficiency Housing Initiative. As the energy efficiency industry grows globally, there is a significant opportunity to grow associated domestic industries. The 2015 Green Building Economic Impact Study issued by the U.S. Green Building Council shows that green construction's growth rate is rapidly outpacing that of conventional construction and will continue to rise in the United States.[vi] It is critical that as this industry grows, domestic suppliers for the industry also grow—thereby multiplying the economic impact and creating good paying jobs across the spectrum.

However, if no effort is made to integrate the growing demand for energy efficiency products with an economic development strategy that supports and expands the local supply chain to produce those products, other countries may be better positioned to capture the jobs and business opportunities. In addition, without a clear focus on the safety and health of the materials used to make affordable housing more energy efficient, we will be trading lower energy costs for greater health impacts and ignoring the potential manufacturing job growth from the production of safer materials.

The BlueGreen Alliance Foundation's project is designed to understand more fully the gaps in the supply chain for these products and opportunities for manufacturers to grow in this sector. Our extensive outreach uncovered a broad range of energy efficiency housing products made in the United States, and is part of a larger national initiative to accelerate the retrofit of multifamily low-income facilities. Through this process, we discovered more than 1,000 U.S. manufacturers and distributors of products ranging from insulation to energy efficient lighting to HVAC systems. These manufacturers are looking for opportunities to grow in the United States and globally.

This project is designed to help local communities capture the benefits of energy efficiency retrofits, including lower utility bills, improved tenant health, and increased economic development. It will also aid domestic manufacturers that are interested in learning about opportunities to participate in the energy efficiency retrofit market supply chain, low-income residents living in affordable housing, and building owners and contractors wanting to learn about energy efficiency housing products and potentially hazardous chemicals contained in some building materials. States and federal agencies should also prioritize the use of domestically manufactured, efficient, and non-toxic building materials where they are involved in building construction and upgrades.

Industrial Energy Efficiency

Similarly, the industrial sector also provides a major opportunity for efficiency improvements and jobs and manufacturing growth. As previously mentioned, manufacturing represents a significant portion of the GDP—about $2 trillion—and supports more than 17 million workers. Manufacturing is also a heavy user of energy, accounting for 24 percent of U.S. energy consumption.[vii] And while manufacturers are already investing heavily in energy efficiency, an additional 15-30 percent reduction in overall energy consumption is possible through further deployment of industrial efficiency (and on-site renewables) technologies.

In addition to reducing emissions, taking advantage of efficiency opportunities can reduce operating expenses and the carbon footprint of energy-intensive, trade-exposed

manufacturers, provide a hedge against rising fuel costs, and have the additional benefit of making American manufacturing more competitive in the global marketplace. And while these benefits help major manufacturers preserve jobs in the United States, manufacturing, installing, and maintaining industrial efficiency equipment could provide a major boost to the many smaller companies that make this technology.

The BlueGreen Alliance is also currently working in Illinois, Michigan, Minnesota, Ohio, and Pennsylvania, to identify, create, and maintain good manufacturing jobs in the energy sector. Key opportunities include legislative and regulatory measures that would boost funding for carbon emission reductions in the industrial sector—perhaps as part of a compliance approach to the Clean Power Plan. Other opportunities at the state level include complementary legislative and non-legislative efforts that would expand use of industrial efficiency, combined heat and power (CHP), waste heat to power (WHP), on-site renewables; engage a qualified workforce; and promote domestic manufacturing of clean energy components.

Driving Manufacturing through Energy and Transportation Infrastructure

The BlueGreen Alliance Foundation has also done extensive research on and outreach to manufacturers of components for America's passenger rail and transit sectors—as well as in advanced vehicles, components and materials. A 2015 report by the BlueGreen Alliance and the Environmental Law & Policy Center showed more than 750 companies in at least 39 states currently manufacturing components for passenger rail and transit rail.[viii]

New BlueGreen Alliance analysis shows over 2,000 assemblers, components, and subcomponents manufacturers who stand to benefit as the nation, states, and cities invest in transit vehicles, systems, and infrastructure. For example, these include major global companies like Siemens, which builds locomotives for Amtrak utilizing components from 69 suppliers in 23 states; one of those suppliers was Siemens' Norwood Motor plant, represented by IUE-CWA local 765. Electric motors have been built at this factory in Norwood Ohio for 100 years with many of the employees being the second or third

generation of their family to work there. Similarly, investments in transportation infrastructure builds jobs at electronics manufacturers like Alstom Signaling in Rochester, New York, helping bring back jobs to manufacturing communities hard hit by previous generations of manufacturing decline.

Investment in infrastructure is critical for American manufacturing. It is important that we more fully engage smaller domestic manufacturers in the transit supply chain, opening up opportunities for growth. But investment is just the first step in ensuring we build strong clean transportation manufacturing. It is critical that we also more fully engage smaller domestic manufacturers in the transit supply chain, opening up opportunities for growth.

Incentives to Engage American Manufacturers and to "Buy Clean"

Public infrastructure projects utilize significant financial resources, often at the expense of the taxpayer. How these funds are spent can have a big impact on the overall benefits to local communities, to manufacturing, and the to the U.S. economy. Compliance with long standing Buy America rules can be made more effective both for major projects and for the small manufacturers looking to take part in major projects. In addition, new model procurement language, such as the U.S. Employment Plan, recently adopted by Amtrak, provides clear quantitative measures for major bidders to take additional steps to improve domestic content, local jobs, and job quality.

There is also opportunity to improve the energy and manufacturing outcomes of major infrastructure projects. These projects use energy-intensive manufactured materials—steel, cement, and plastic—for which the environmental impact can vary greatly from one mill to another, let alone from one country to another. Building bridges, tunnels, and transit systems that use inputs sourced from countries with weak environmental standards have long lasting implications with higher greenhouse gases and toxic air emissions. These taxpayer-funded projects can cost taxpayers much more than procurement costs. Put simply, a bridge cannot be built without steel, but a bridge can be built using the cleanest steel available.

Recent analysis by the BlueGreen Alliance Foundation found that, for example, had "Buy

Clean" criteria been integrated into development, procurement, and implementation stages of one construction project—the Bay Bridge—an estimated 180,000 tons of carbon emissions would have been averted, which is equivalent to taking 38,000 cars off the road in the United States for a year. According to the American Society of Civil Engineers, there is currently a $76 billion need to fix structurally deficient bridges in the United States. Establishing procurement criteria that incentivize more cleanly produced materials would not only result in significantly lower emissions, but improved safety and overall decreases in cost.

Clean Vehicles

Finally, no discussion of the promise of clean energy manufacturing would be complete without emphasizing the critical importance of continuing the recovery and growth of advanced automotive manufacturing in the United States. The industry, which anchors American manufacturing as a whole, has been transformed over the last eight years. Thanks to sound environmental, manufacturing, and economic policies working hand in hand, and also thanks to huge investments made by auto companies and workers, Americans are driving better, cleaner vehicles that dramatically cut carbon pollution and better protect the American economy from instability in global oil markets.

At the same time, the industry has regained its competitive position globally, and brought back over 250,000 direct manufacturing jobs building new more fuel-efficient vehicles, advanced auto components, and innovative materials, in addition to millions of related jobs. But the industry continues to change rapidly, and whether considering turbocharged engines, continuously variable transmissions, high-strength steel, aluminum or carbon fiber, power electronics, or battery technology, it is vital to ensure that we build these technologies in companies large and small across the United States.

Recommendations

In summary, the BlueGreen Alliance believes several key factors are necessary to promote American manufacturing jobs.

Market Certainty

Large and small manufacturers across the energy sector need policy leadership and certainty to create the climate for robust private investment in these promising but emerging fields. The five-year extension of critical policies like the ITC and PTC is crucial to increasing demand for renewable energy component products. But additional mandates and investments are needed to further establish a domestically sourced renewable energy industry. Similarly, consistent, long-term fuel economy and greenhouse gas reduction standards provide visibility and certainty critical for automotive assemblers and suppliers to make the large long-term investments necessary to retool to build the next generation of vehicle technology here.

Rebuilding America's Energy and Transportation Infrastructure

This year's passage of a long-term transportation bill was an important first step in providing consistent investment in infrastructure, but much more is needed to bring our energy and transportation infrastructure up to the level needed to support a leading economy. Investments to enhance and spur forward-looking infrastructure are critical to building manufacturing. Also critical are measures to ensure that public dollars drive domestic manufacturing growth, and galvanize a rebirth of small manufacturing. These measures include:

1) Facilitating and improving implementation of long-standing Buy America policies;

2) Adopting innovative and best value procurement practices that increase domestic suppliers access to major infrastructure projects, and improve job quality, skills and training; and

3) Implementing Buy Clean criteria that ensure public infrastructure dollars reinforce domestic investment in state-of-the-art clean production of key materials, and don't contribute to offshoring jobs and increasing pollution.

Manufacturing Efficiency, Clean Energy, and Vehicle Technology in America

Federal policies should continue to promote adoption of clean and efficient technology and encourage investments to manufacture these technologies in America. This means boosting and restoring critical clean energy manufacturing programs like the Department of Energy's Advanced Technology Vehicle Manufacturing (ATVM) loan program—which helps attract and upgrade the major advanced assembly plants around which networks of large and small suppliers arise—and the 48C manufacturing tax credit from the American Recovery and Reinvestment Act, which provided incentives for hundreds of smaller manufacturers to enter clean energy fields. Continuing to build and improve regional hubs that link advanced clean energy or transportation technology innovation and manufacturing is also key.

Expanding Assistance for Small Manufacturers

Small manufacturers often need tailored assistance to take advantage of opportunities in the clean energy and energy efficiency markets. The National Institute of Science and Technology's Hollings Manufacturing Extension Partnership in the Department of Commerce partners in all 50 states, MEP "works with small and mid-sized U.S. manufacturers to help them create and retain jobs, increase profits, and save time and money," and has a number of programs aimed at helping small companies enter these emerging energy and transportation sectors.

Growing the Energy Workforce

The rapidly changing energy sector also brings big workforce opportunities and challenges. As older workers retire, it is critical to ensure that the next generation of workers is well trained for these safe, family-sustaining energy and transportation jobs. Partnering with established apprenticeship programs and other training programs can help ensure small manufacturers are on a level playing field when it comes to finding skilled workers.

Conclusion

In closing, Chairman Chabot, Ranking Member Velázquez, and members of the committee, allow me to again thank you for your important work to support small businesses and American manufacturing, and for granting me the opportunity to appear at today's hearing

and provide a brief overview of how the BlueGreen Alliance Foundation and Clean Economy Manufacturing Center is working every day to achieve the goals shared by this committee—building a robust, sustainable American economy providing opportunities for businesses to thrive, American workers to prosper, and for a cleaner economy to protect the public and the environment.

Thank you.

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[i] Environmental Entrepreneurs, *Clean Jobs America. March 2016.http://www.e2.org/wp-content/uploads/2016/03/CleanJobsAmerica_FINAL.pdf.*

[ii] U.S. Department of Energy*, Barriers to Industrial Energy Efficiency*. June 2015. http://energy.gov/sites/prod/files/2015/06/f23/EXEC-2014-005846_5%20Study_.pdf.

[iii] Economic Policy Institute, Robert E. Scott, "Manufacturing Job Loss: Trade, Not Productivity, Is the Culprit." August 11, 2015. http://www.epi.org/publication/manufacturing-job-loss-trade-not-productivity-is-the-culprit/.

[iv] Indianapolis Star, "Carrier in Indy, UTEC in Huntington to move units to Mexico, costing 2,100 jobs." February 12, 2016. http://www.indystar.com/story/money/2016/02/10/carrier-move-indy-unit-mexico-eliminate-1400-jobs/80181804/.

[v] U.S. Department of Energy Lawrence Berkeley National Laboratory, "Comparison of Energy-Related Carbon Dioxide Emissions Intensity of the International Iron and Steel Industry: Case Studies from China, Germany, Mexico, and the United States," December 2015. http://eetd.lbl.gov/sites/all/files/co2_comparison_of_steel_industry-final-1.11.2016.pdf.

[vi] http://go.usgbc.org/2015-Green-Building-Economic-Impact-Study.html.

[vii] Ibid, DOE, 2015.

[viii] BlueGreen Alliance and Environmental Law & Policy Center, "Passenger Rail and Transit Rail Manufacturing in the United States." 2015. http://www.bluegreenalliance.org/news/publications/report-passenger-rail-transit-rail.