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ONE HUNDRED FOURTEENTH CONGRESS

Congress of the United States

House of Representatives

COMMITTEE ON ENERGY AND COMMERCE
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MEMORANDUM

April 22, 2015

To: Subcommittee on Energy and Power Democratic Members and Staff

Fr: Committee on Energy and Commerce Democratic Staff

Re: Hearing on "Title II: 21st Century Workforce"

On Thursday, April 23, 2015, at 10:00 a.m. in room 2123 of the Rayburn House Office Building, the Subcommittee on Energy and Power will hold a hearing on a discussion draft titled "Title II: 21st Century Workforce".

I. BACKGROUND

A. Minority Participation in the U.S. Labor Force

There is a significant and persistent gap in employment rates and earnings between whites and racial minorities in the U.S labor force. The Bureau of Labor Statistics (BLS) March 2015 jobs report found that the unemployment rate for African Americans (10.1 %) was more than twice that for whites (4.7%). Hispanics had a 6.8% jobless rate.[1] Median adjusted household income for African Americans is an estimated 59% to that of whites, which is up slightly from 55% in 1967.[2] For non-white Hispanic Americans, median adjusted household income is an estimated 70% to that of non-white Hispanics.[3]

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[1] U.S. Department of Labor, Bureau of Labor Statistics, *The Employment Situation – March 2015* (Apr. 3, 2015) (online at www.bls.gov/news.release/empsit.nr0.htm).

[2] Pew Research Center, *Analysis of Federal Reserve's Survey of Consumer Finances Data* (Aug. 30, 2013) (online at www.pewresearch.org/fact-tank/2013/08/30/black-incomes-are-up-but-wealth-isnt/).

[3] U.S. Census Bureau, *Income and Poverty in the United States: 2013*, at P60-249 (Sept. 2014) (online at www.census.gov/content/dam/Census/library/publications/2014/demo/p60-249.pdf.).

Disadvantaged individuals and minorities have also been vastly and disproportionately underrepresented in the science, technology, engineering and math (STEM) fields. These fields include some of the fastest-growing and most promising industries in the world. While African Americans, Hispanics, and Native Americans represent 24% of the overall workforce, they make up only 9% of the U.S. science and engineering workforce.[4] Although the U.S. had nearly 8.2 million STEM workers in 2013, U.S. businesses have repeatedly voiced concerns over the short supply and availability of qualified STEM workers and the untapped potential for job opportunities for American workers in these fields.

The federal government supports several programs that aim to improve access to jobs training and employment opportunities for disadvantaged workers. In 2013, the Department of Energy (DOE) launched the "Minorities in Energy Initiative" to increase the participation of minorities and minority businesses in energy sector careers and business opportunities. The initiative, led by the DOE's Office of Economic Impact and Diversity, has brought together stakeholders from business, academia, non-profits and government to develop strategies to better engage minorities in the energy sector. These stakeholders identified three key areas where the federal government should focus its efforts to realize these objectives: STEM Education/ Workforce Development, Energy Economic Development, and Climate Change.[5]

B. Energy Economic Development (Growth of Clean Energy & Climate Change)

The energy industry is the third largest industry in the U.S. and is projected to continue to grow.[6] An estimated 60% of energy industry job growth will occur in skilled and technical jobs requiring up to two years of post-high school training.[7] It is projected that the clean energy sector will be an important source for these new jobs.

In recent years, the clean energy industry has grown steadily in the United States, with thriving companies in all technology subsectors, including energy efficiency, solar, wind, geothermal, hydropower, biomass, and biofuels. In 2013, BLS reported that employment associated with the production of "green goods and services"— those that benefit the

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[4] U.S. Department of Energy, *Executive Summary: September 24, 2013 Kick Off of the Minorities in Energy Initiative* (online at energy.gov/sites/prod/files/2013/11/f5/executive%20summary.pdf).

[5] *Id*.

[6] U.S. Department of Commerce, SelectUSA, *The Energy Industry in the United States* (online at selectusa.commerce.gov/industry-snapshots/energy-industry-united-states).

[7] U.S. Department of Energy, *Executive Summary: September 24, 2013 Kick Off of the Minorities in Energy Initiative* (online at energy.gov/sites/prod/files/2013/11/f5/executive%20summary.pdf).

environment or conserve natural resources – totaled more than 3.4 million in the fourth quarter of 2011. (BLS discontinued green jobs reporting due to 2013 sequestration budget cuts).[8]

The clean energy sector offers the potential for significant job opportunities for minority workers in areas such as manufacturing, the construction and building trades, information technology and computer software design, engineering, sales and marketing, and operations and maintenance. Many of these jobs will support workers in industries hit hard by the recession, particularly construction, with positions that cannot be offshored because they involve installation and the building trades.

Solar Energy: Since 2010, the solar industry has grown by over 86% and added 80,000 new jobs. In 2014, there were over 173,000 workers throughout the solar industry supply chain in the United States. Leading this growth was solar installation jobs, which employed over 97,000 workers nationwide and paid an average (mean) of $20-24 per hour; this is comparable to wages earned by skilled electricians and plumbers and higher than average rates for roofers and construction workers.[9] BLS projects that employment of solar installers is projected to grow 24% from 2012 to 2022, much faster than the average for all occupations.[10] Jobs in solar manufacturing, sales and distribution, and project development are also projected to grow. Many of these solar jobs are in urban areas, which often have substantial minority populations.

Wind Energy: Wind turbines are complex machines composed of some 8,000 components. Turbine manufacturing involves an extensive supply chain, and the construction, operation and maintenance of a wind-farm project requires a large number of workers. By the end of 2014, wind energy development employed 73,000 full-time workers across the United States, including 50,000 jobs in manufacturing across 43 states.[11] Eight of the ten largest global wind turbine makers selling in the United States have factories here, up from just one in 2004.[12] BLS projects that jobs in the wind industry will continue to be available to people with a broad range of education and experience levels, from machinists in manufacturing factories to technicians

[8] U.S. Department of Labor, Bureau of Labor Statistics, *Employment in Green Goods and Services – 2011* (Mar. 19, 2013) (online at www.bls.gov/news.release/pdf/ggqcew.pdf).

[9] The Solar Foundation, *National Solar Jobs Census 2014* (Jan. 2015) (online at www.thesolarfoundation.org/solar-jobs-census/national/).

[10] U.S. Department of Labor, Bureau of Labor Statistics, *Occupational Outlook Handbook, 2014-15 Edition, Solar Photovoltaic Installers* (Jan. 8, 2014) (online at www.bls.gov/ooh/construction-and-extraction/solar-photovoltaic-installers.htm).

[11] U.S. Department of Energy, *Wind Vision* (Mar. 2015) (online at http://energy.gov/eere/wind/wind-vision); American Wind Energy Association, *American wind energy rebounded in 2014* (Apr. 15, 2015) (online at www.awea.org/MediaCenter/pressrelease.aspx?ItemNumber=7444).

[12] Governors' Wind Energy Coalition, *Renewable Electricity Standards: State Success Stories* (Mar. 2013) (online at www.governorswindenergycoalition.org/wp-content/uploads/2013/03/RES-White-Paper-March-2013.pdf).

working on wind farms every day. These positions average salaries between $30,000 to nearly $90,000 annually.[13]

Energy Efficiency: There are significant gains to be made in achieving greater energy efficiency in U.S. buildings, appliances and lighting, and industrial facilities. According to the American Council for an Energy-Efficient Economy (ACEEE), the United States economy could support 1.3 to 1.9 million jobs by 2050 through the deployment of existing and more advanced energy efficient technologies.[14] Examples of energy efficiency job opportunities include energy auditors, insulation and weatherization technicians, electricians, heating/conditioning installers, building inspectors, civil engineers, green construction and architecture, and manufacturers, distributors, and salespeople of energy efficient products.

Many cities and states have implemented energy efficiency programs as a way to support jobs and economic development in construction and related energy services, which are very labor-intensive sectors of the economy. For example, Massachusetts has a long record of success in implementing energy efficiency programs. Following the enactment of the Green Communities Act of 2008, the state's investments in energy efficiency have created job opportunities in building auditing, retrofit services for residential homes (window and door treatments, and insulation), residential lighting and appliance change-outs, lighting and equipment upgrades for commercial buildings, and funding for more efficient material and appliances for new construction projects. A 2014 study found that in the first six years of implementation, the law produced $1.2 billion in net economic benefits and more than 16,000 jobs.[15]

Oil and Gas: A recent report released by the American Petroleum Institute projects that, by 2030, the oil and natural gas industry will create over 800,000 new job opportunities, with most of the job potential growth (417,000 jobs) expected to occur in the Gulf region. The report estimates that the share of African American and Hispanic employment in the industry is expected to rise from one quarter in 2010 to one third in 2030.[16]

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[13] U.S. Department of Labor, Bureau of Labor Statistics, *Careers in Wind Energy* (Sept. 2010) (online at www.bls.gov/green/wind_energy/).

[14] American Council for an Energy-Efficient Economy, *Energy Efficiency Job Creation: Real World Experiences* (Oct. 2012) (online at aceee.org/files/pdf/white-paper/energy-efficiency-job-creation.pdf).

[15] Analysis Group, *The Impacts of the Green Communities Act on the Massachusetts Economy: A Review of the First Six Years of the Act's Implementation* (Mar. 4, 2014) (online at www.analysisgroup.com/uploadedFiles/Publishing/Articles/Analysis_Group_GCA_Study.pdf).

[16] IHS Global Inc. prepared for the American Petroleum Institute, *Minority and Female Employment in the Oil & Gas and Petrochemical Industries* (Mar. 2014) (online at www.api.org/~/media/Files/Policy/Jobs/IHS-Minority-and-Female-Employment-Report.pdf).

C. U.S. Manufacturing Job Opportunities

Manufacturing is the mechanical, physical, or chemical transformation of materials, substances, or components into new products. Manufacturing businesses include plants, factories, and mills and usually make their products with power-driven machines and equipment. However, small businesses that make things by hand, including home-based businesses, are also considered manufacturing.[17]

Manufacturing supports an estimated 17.6 million jobs in the United States—about one in six private-sector jobs. More than 12 million Americans, which is nine percent of the workforce, are employed directly in manufacturing.[18] In 2013, the average manufacturing worker in the United States earned $77,506 annually, including pay and benefits.[19]

Manufacturing holds promising, jobs-boosting potential for all Americans, particularly women, minorities and veterans. In 2013, manufacturers contributed $2.09 trillion to the economy, an increase from 2009 when manufacturers contributed $1.73 trillion. The sector accounted for 12% of GDP in 2013.[20] For every $1.00 spent in manufacturing, another $1.37 is added to the economy, the highest multiplier effect of any economic sector.[21]

Further supporting the potential for job growth in the manufacturing sector is an assessment by the Reshoring Initiative, a Chicago-based nonprofit that encourages companies to consider moving work back to the U.S. Their assessment reports that America is now luring as many factory jobs back from overseas—a process known as reshoring—as it is losing to continued offshoring. The group says 2013 was a turning point, with roughly 40,000 jobs added in the U.S. by the return of jobs that were previously moved offshore—equal to the number of jobs lost from the continued movement of work abroad. In comparison, in 2003, an estimated 150,000 factory jobs left, while only 2,000 were brought back.

II. THE 21st CENTURY ENERGY WORKFORCE

The 21st Century Workforce draft legislation, which is the subject of this hearing, directs the Secretary of Energy to establish a new program to improve the education and training of women,

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[17] U.S. Department of Commerce, U.S. Census Bureau, *Manufacturing* (online at www.census.gov/econ/manufacturing.html).

[18] U.S. Department of Labor, Bureau of Labor Statistics, *Current Employment Statistics* (online at www.bls.gov/ces/).

[19] U.S. Department of Commerce, Bureau of Economic Analysis, *National Economic Accounts by Industry* (2013).

[20] U.S. Department of Commerce, Bureau of Economic Analysis, *Industry Economic Accounts Data: GDP by Industry* (Nov. 13, 2014).

[21] U.S. Department of Commerce, Bureau of Economic Analysis, *Industry Input-Output Tables* (2013).

minorities, and veterans for energy and manufacturing-related jobs. Elements of this new program include:

- Direct assistance (including financial assistance, awards, technical expertise, mentorships, internships, and partnerships) to schools, community colleges, workforce development organizations, nonprofit organizations, labor organizations, apprenticeship programs, and minority-serving institutions.

- Establishment of a clearinghouse of information and resources on training and workforce development programs for energy and manufacturing-related jobs.

- Collaboration with schools, community colleges, universities (including minority-serving institutions), workforce training organizations, national laboratories, unions, state energy offices, workforce investment boards, and the energy and manufacturing industries to develop and implement energy and manufacturing-related training programs.

- Collaboration with the Secretaries of Labor and Education to develop educational guidelines for institutions at all levels – from elementary to post-graduate university programs – to help provide students with the skills necessary to work in energy and manufacturing-related jobs, including energy efficiency and conservation initiatives.

- Outreach to minority-serving educational institutions, with the objective of increasing the number of minorities, women, and veterans trained to work in the energy and manufacturing-related job sectors.

- Collaboration with the energy and manufacturing-related industries to develop a workforce trained in various energy and manufacturing-related industry sectors, including oil and gas, coal, nuclear, electric utility, pipeline, alternative fuels, renewable, energy-intensive and advanced manufacturing, and energy efficiency.

- Collaboration with organized labor and community-based workforce organizations to help identify students and other candidates, including those from historically underserved communities such as minorities, women, and veterans to enroll in training and apprenticeship programs for energy-related jobs.

- Make resources available to institutions serving displaced and unemployed energy and manufacturing workers with the objective of training individuals to re-enter the energy and manufacturing workforce.

- Work with industry, organized labor, and community-based workforce organizations to help identify students and other candidates, including from underrepresented communities such as minorities, women, and veterans, to enroll in training and apprenticeship programs for energy and manufacturing-related jobs.

III. WITNESSES

The following witnesses have been invited to testify:

Tracy Brundage
Vice President for Workforce Development and Continuing Education
Pennsylvania College of Technology
On behalf of ShaleNET

Rick Jarvis
Vice President of Field Construction
Morrow-Meadows Corporation
On behalf of the National Electrical Contractors Association

Dr. Ramanan Krishnamoorti
Acting Vice President and Vice Chancellor for Research and Technology Transfer
Chief Energy Officer
University of Houston

Charles Wilson
Senior Reactor Operator (SRO) Trainer
Managing Partner
CW Consulting Group, LLC

Felix W. Ortiz III
Founder, Chairman and Chief Executive Officer
Viridis Learning

Monica Martinez
President
Hispanics In Energy