

Education and Labor Committee/Subcommittee on Higher Education, Lifelong Learning and Competitiveness

FIELD HEARING: “New Innovations and Best Practices under the Workforce Investment Act”

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I was born and raised in Nevada. I am a third generation electrician and helped establish the current Renewable Energy industry in the state. I was a small business owner who saw the potential for Renewable Energy in Nevada nearly a decade ago. My father, brothers, and I, all trained electricians, work in the Renewable Energy industry today as green job pioneers.

After working as an electrician in the construction and utility sectors in Nevada for many years I started a solar electric contracting company in 2000. In 2004 I joined forces with Bombard Electric, creating their Renewable Energy Division, as a response to an increase in demand and interest in the Renewable Energy industry. Together we have installed over 20 megawatts of Renewable Energy on over 500 projects in and around the State of Nevada.

I helped create and develop the Renewable Energy training program and curriculum for the International Brotherhood of Electrical Workers (IBEW) / National Electrical Contractors Association (NECA) / Electrical Joint Apprenticeship Training Center of Southern Nevada (JATC). In addition to my local efforts I am on the Renewable Energy Curriculum Development Committee for the National JATC. I was among the earliest solar professionals to obtain certification from the North American Board of Certified Energy Practitioners (NABCEP). In 2007 I was appointed to the Nevada Renewable Energy and Energy Conservation Task Force. In 2008 I was appointed to Senator Harry Reid’s Blue Ribbon Task Force for a Clean Energy Future. I was a founding member of, and current board member of, the American Solar Energy Society (ASES) Southern Nevada Chapter, SolarNV.

The Renewable Energy industry began in American laboratories with American scientists developing innovative solutions to meet energy challenges. Over the past few decades the industry has grown from a niche market to one of the fastest growing industries in the world.

From utility sized installations down to residential systems, Renewable Energy has emerged as an enormous industry capable of providing thousands of jobs and millions of dollars to states like Nevada. Governments at all levels, understanding this potential for job and fiscal growth, have begun introducing policy to support the implementation of this now viable energy solution. For Renewable Energy to meet America's growing energy demands we must continue to develop our most valuable renewable resource, the American workforce.

We must train tomorrow's Renewable Energy workforce today. These Green Jobs are construction jobs. To train green workers we need to train construction workers, and build on their already existing knowledge base. Renewable Energy technologies require the same high standards for safety and reliability as existing energy technology installations, construction projects, and any other construction related process. Many of the building trades training programs require these high standards already and are well aligned with the Green Job goals of The Workforce Investment Act.

The IBEW has led the way in the training and providing of a highly skilled workforce for the safe installation of the latest in electrical technology, dating back to its inception, over a century ago, in 1891. The IBEW and NECA have been instrumental in establishing national standards to maintain the highest level of workmanship and safety in its installations. These high standards have continued as the IBEW and the JATC established Renewable Energy training programs.

The Southern Nevada JATC has been providing training since 1947. The JATC is a non-profit member of the community focused on providing long-term employment for individuals seeking a career in the electrical construction industry, including Renewable Energy. The JATC understands the benefits of career oriented training and placement, for both the individuals and the communities they are working in. In its long history in Southern Nevada the JATC has trained thousands of electricians including my grandfather, my father, my brothers, and myself.

Last week in Southern Nevada the JATC graduated 93 electricians from the five year apprenticeship program. This program's curriculum focuses on electrical theory, construction practices, and safety. During the course of the program every apprentice is taught the theory behind, and the methods of installation for, Renewable Energy systems.

The Southern Nevada campus of the JATC also has a state of the art Wind and PV Training Laboratory. This lab offers hands on training on four different existing solar arrays, multiple types of inverters, and fully functional wind turbine. All this equipment, in addition to measurement and verification hardware, is routed to a comprehensive data acquisition system. All the data that is collected is available online as an educational resource to the public.

In addition to the apprenticeship training on Renewable Energy and the Wind and PV Training Lab, the JATC also offers a 50 hour comprehensive training module, concentrated on safe and effective installation of photovoltaic (PV) systems. This class prepares the already certified electricians for the Nevada State PV Installer's License exam, administered by the Nevada State OSHA Department. Several hundred apprentices and electricians have successfully completed this course and exam in order to meet the state's requirements for installing wind and PV technology.

These programs already exist, are well aligned with The Workforce Investment Act goals for Green Jobs, but are self-funded. All of the electrical workers dispatched by the IBEW pay for these programs with portions of their paychecks.

There are many existing programs that apprenticeships like the JATC are currently working with. The Build Nevada Initiative focuses on providing high school students a gateway in to trade schools and apprenticeship programs. Students enrolled in the program obtain math skills that exceed the requirements for entry in to all apprenticeship programs, including the Renewable Energy programs offered by the JATC. Build Nevada partners with the Clark County School District to teach the future workforce occupational skills at facilities such as Desert Rose High School and the Area Technical Trade Center. The Build Nevada Initiative also ensures that the future workforce is properly trained in construction equipment operation and jobsite safety before they enter their respective apprenticeship program.

Apprenticeship programs all over the country, including the JATC of Southern Nevada, are working with America's veterans through programs such as Helmets to Hardhats. Helmets to Hardhats is a non-profit organization that connects former military personnel with career opportunities from the nationwide building and construction trades.

Educational outreach is an essential part of developing a Renewable Energy workforce. The Renewable Energy Division of Bombard Electric regularly attends elementary school energy fairs, donates time and materials to school science projects, and sponsors Renewable Energy competitions at area schools. Our company, together with the JATC apprenticeship program, also provides resources on careers in Renewable Energy at vocational high schools and technical academies.

Because of the tremendous leadership demonstrated by many Nevadans, including State Senate Majority Leader Steven Horsford, United States Senate Majority Leader Harry Reid, and NV Energy, there are several new and existing programs that are well aligned with the Green Jobs goals of the Workforce Investment Act. Senator Horsford's proposed SB152 would utilize existing apprenticeship training programs and non-profit workforce development groups to leverage federal funds for Green Jobs. All installers at the Renewable Energy Division of Bombard Electric were trained by JATC instructors, whose education would not have been possible without the hard work of Senator Reid. The JATC Wind and PV Training Laboratory was funded largely by NV Energy through the Renewable Generations program and a pilot and demonstration program authorized by the Nevada State Legislature.

The reoccurring costs of training provided by the JATC of Southern Nevada are funded by the electrical workers of the IBEW and the contractors of NECA. These training programs continue to provide the most comprehensive training on the latest energy technology, including Renewable Energy. As a result of the economic downturn a growing portion of the workforce responsible for funding the training programs is unemployed and cannot contribute. This month alone Bombard Electric has spent over \$10,000 in Renewable Energy training for its workforce.

Growing unemployment means less funding for a program that is currently at maximum capacity. The existing classroom facilities for the JATC training programs are in need of expansion and modernization. All this at a time when Renewable Energy training is most needed.

The trainers in the JATC programs are largely workers themselves who have to train the future Renewable Energy workforce in addition to their full time jobs. These trainers receive less compensation when training than if they were on the job. The apprentices and journeymen electrical workers receive all their training after hours and on weekends with no compensation whatsoever. In addition they also pay for all of their textbooks and materials, even when unemployed.

These building trades training programs, the facilities they use, the trainers who work there, and the workforce they train already exist and are well aligned with the Workforce Investment Act goals for Green Jobs. Direct funding of these programs, and others like them around the state and country, are necessary for the growth and development of a Renewable Energy workforce. Bombard Electric, and contractors like them all over the country, need help to best prepare their workforce for our Renewable Energy future. With the guidance and support of the Workforce Investment Act our common goals of putting Nevadans and Americans back to work can be realized safely and soon.