



Since its inception, the Center for Energy Workforce Development (CEWD) has created workable solutions to help members accomplish the broad mission of developing a skilled energy workforce pipeline to ensure a steady pool of diverse, qualified candidates and a reliable energy workforce. Through its many national partnerships and alliances, CEWD has created a national collaboration of education, industry, and government to replicate the processes, curriculum, and tools that save companies time and money in creating the next generation of energy workers.

National Activities

In 2013, CEWD had a number of speaking engagements at national and state convenings, including the American Association of Community Colleges Workforce Development Institute, IEEE Smart Grid Institute, Nuclear Uniform Curriculum Program annual meeting, ANS CONTE, National Association of State Approving Agencies (military), EPCE, National Hydro Association Conference, Regional Center for Nuclear Education and Training, Aspen Institute, EEI T&D meeting, Utility Analytics, Southeast LAMPAC, Virginia Governor's Conference on Energy, and Midwest Energy Association Fall Executive Summit.

CEWD also participated in a workshop held by the American Society for Engineering Education (ASEE) to help universities understand industry's requirements in terms of knowledge, skills, and abilities for new engineers.

CEWD has been selected to become part of the National Network of Business and Industry Associations, a new organization funded by private foundations and focused on competency-based learning.

Recently, Mary Miller represented Troops to Energy Jobs at the Senate Steering and Outreach Committee meeting hosted by Senators Reid, Begich, and Sanders. The meeting included businesses and organizations that have shown a commitment to hiring veterans, and invitees were asked to update the significant number of senators present on the focus and status of nationally recognized veterans' initiatives.

In addition, CEWD was represented by John Donleavy, National Grid, and Melissa Lavinson, PG&E, at a meeting with Department of Labor Secretary Perez. The meeting specifically focused on creating a demand-driven education system and broadening the partnerships between business and education in developing the workforce. Donleavy and Lavinson were two of just twenty business leaders invited by the administration to represent employers at this interagency meeting.

Major Implementation Initiatives

Get Into Energy Career Pathways for Low Income Young Adults

The Center for Energy Workforce Development (CEWD) was awarded a grant by the Bill & Melinda Gates Foundation in August 2010 to pilot specific components of the Get Into Energy Career Pathways (GIECP) model in eight states. The grant funded the development and implementation of a student support system and industry-recognized postsecondary credentials specifically focused on low income young adults (LIYA) ages 16-26 over a three-year period.

Eight State Energy Workforce Consortia (Georgia, Florida, the Carolinas, Ohio, Indiana, Minnesota, California, and Washington) implemented the pathways initiative with partnerships among utilities, educators, youth pipeline organizations, and the workforce system. By the end of the grant period, out of the 1,037 students enrolled in the process, 407 had completed energy education programs, an additional 1,586 industry-recognized credentials were awarded, 216 students were currently enrolled in education programs, and 192 were hired.

Available now for members: CEWD created many tools, templates, and curriculum during the grant period and those resources are now available to CEWD members who are interested in working with youth from career awareness, education, and entry into the job market with coaching and support throughout the process.

For an overview of what we learned and the tools available, see the Lessons Learned and Project Summary or go to the Low Income Young Adult link on the CEWD Member Wizard.

Next steps: CEWD is currently developing a National Template for Youth entering energy career pathways. This new resource will be available in early 2014.



Troops to Energy Jobs

In 2011, CEWD—in partnership with American Electric Power, Arizona Public Service Company, Dominion, National Grid, PG&E Corporation, and Southern Company—launched Troops to Energy Jobs to develop and refine a national model for quickly and effectively connecting the stream of qualified military veterans to rewarding careers in the energy sector. The pilot phase of Troops to Energy Jobs was completed in 2013, but the work of bringing more veterans into skilled energy positions is just beginning.

The pilot project was officially completed with the release of the Troops to Energy Jobs National Template and the national roll out at the EEI Convention in June. The Template guides energy companies, step-by-step, in recruiting, training, and supporting veterans who wish to make the transition into energy jobs. The EEI Board passed a resolution supporting Troops to Energy Jobs and the use of the National Template in September.

The Troops to Energy Jobs website for veterans was enhanced during 2013 to include resources to support the Roadmap as well as adding a new jobs site (<http://troopstoenergy.jobs/>). All open member employment opportunities are scraped and posted daily through DirectEmployers Association so that military veterans have access to real-time information on jobs in the industry.

In the fall of 2013, CEWD conducted a series of webinars to roll out the resources created during the project and to help companies start or enhance their own Troops to Energy Jobs initiatives.

Our virtual coach will remain on staff to provide additional guidance to veterans using the Roadmap.

Available now for members: Resources include the Troops to Energy Jobs Roadmap for Veterans (www.troopstoenergyjobs.com) with the jobs microsite; a print version of the Troops to Energy Jobs National Template; and the Troops wizard with tools, best practices, and resources for each step of the process. All are available on the CEWD website by clicking on the Troops Member Implementation Wizard.

Next steps: CEWD is creating a community of practice for companies who are implementing the Troops National Template. The community will have quarterly calls and focus on implementation techniques for beginners through experienced.

Great Lakes Energy Workforce Consortium

During the past year and a half, CEWD has been actively working with the six states in the Great Lakes Region (Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin) to focus attention on the key areas of success for a strong energy workforce consortium. These areas include a comprehensive strategic plan for state energy workforce development that balances supply with demand, sustainable alliances and partnerships to implement the plan, and a defined career pathway for key jobs in the energy industry. CEWD has been implementing the process with each of the states and engaging the industry partners and consortium leads, as well as developing materials to help each consortium make progress in addressing their workforce needs.

The initiative was funded by a grant from the Joyce Foundation and will be completed in July of 2014. As with all CEWD activities, although we have focused attention on just six states, the resources, tools, and materials developed will be available to all CEWD members when complete. CEWD is developing a series of workshops for State Energy Workforce Consortia use:

- Building a State Energy Workforce Plan—Strategic Planning Workshop (Phase 1)
- Building a State Energy Workforce Plan—Strategic Planning Workshop (Phase 2)
- Building Partnerships Workshop
- Credentialing 101 Workshop
- Get Into Energy Career Pathways Workshop

Each workshop will include a detailed facilitator's guide, PowerPoint presentation, and all necessary templates and tools for consortium pre-work and implementation.

Sample tools and templates developed in conjunction with these workshops include a Consortium Structure and Governance Guide, Roles within Consortium Membership, Executive Sponsor Role Description, Activities Prioritization Matrix, Consortium Checklist, and others. During the course of implementation in each of the states, lessons have been learned, and new approaches were implemented. These will be incorporated into the workshop materials in early 2014.

Available now for members: A summary document for engaging executive sponsors in consortia efforts that contains the Business Case for an Energy Workforce Consortium, a How-to Guide, and an interviewing template, along with a PowerPoint presentation. The guides are available on the CEWD website.

Next steps: Completion of the workshops and webinars on implementation for members.

Arizona Sun Corridor Get Into Energy Consortium TAACCCT Grant

Approximately one year ago, an education consortium comprised of five Arizona community colleges and the Arizona Energy Workforce Consortium formed as the Arizona Sun Corridor Get Into Energy Consortium (ASC-GIEC). The ASC-GIEC received a \$13.5 million grant from the U.S. Department of Labor to implement the Get Into Energy Career Pathways model and help fulfill the state's energy industry workforce needs. The grant was part of the recent \$500 million federal Trade Adjustment Assistance Community College and Career Training (TAACCCT) initiative intended for the development and expansion of innovative training programs at community colleges and universities nationwide.

During 2013, CEWD worked closely with the ASC-GIEC, providing technical assistance and guidance on the development of a career pathways model for energy and mining industries, as well as defining the stackable credentials that would be used by all five institutions within the Arizona Sun Corridor. As part of the commitment to the ASC-GIEC grant, CEWD has developed a career coaching process for transitioning adults, validated the Core Technical Framework, created an Energy Industry Fundamentals Community of Practice, and begun development of a national knowledge capture system.

Next steps: CEWD's role in the grant is to document, package, and distribute the knowledge and tools developed by the grant so that other colleges and companies can implement the solutions. Over the next year, we will expand the CEWD Curriculum Center and create a knowledge capture system so that resources can be easily accessed by others.

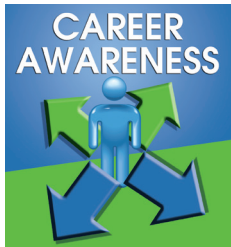
State Energy Workforce Consortia

Currently there are 36 states represented by consortia in various stages of planning and implementation. CEWD provides support to consortia by developing specialized material (like the Careers in Energy poster and brochure); maintaining the consortia community of practice with quarterly calls, a dedicated website, and the National Forum; developing tools for strategic workforce planning; and providing reports for regional and state demand forecasting.

During 2013, consortia members have implemented many successful programs in their states. More states sponsored Careers in Energy Week than ever before, boasting a variety of activities including video contests, open houses, energy activities, and more. Other successful initiatives included activities such as mentoring programs introducing young girls to female engineers; expanding membership to include broader industry representation; launching energy academies for high school students; obtaining community college credits for apprenticeships; expanding teacher externships; accelerating degree completion programs; hosting energy summer camps; pushing for state acceptance of an energy career cluster; securing federal workforce development grants; and training teachers to incorporate energy projects into their class work.

Available now for members: Careers in Energy Week poster available on ShopCEWD; Consortia Groupsite and Community of Practice; and regional demand reports that include demand forecasts for each state.

Next steps: Roll out of workshops for developing and maintaining state consortia.



Career Awareness

In efforts to build awareness of the need for a skilled energy workforce, CEWD has developed new tools for members and enhanced the existing websites. Members can use the “Member Wizard” to find what they need quickly on the CEWD site. In addition, a new job search tool has been integrated into Get Into Energy website where users can search for open positions with member companies.

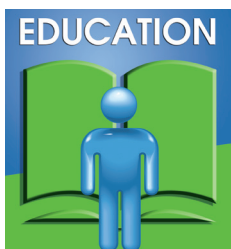
In 2013, CEWD formalized a strategic partnership with the National Energy Foundation (NEF) (www.nef1.org) to leverage the career awareness and education initiatives between the organizations. Through this partnership with NEF, CEWD was able to provide members with lesson plans and an energy coloring book for grades K-12. In addition, both organizations created a Get Into Energy poster, which was a popular product on ShopCEWD. The colorful, engaging poster describes the in-demand energy careers and refers to the Get Into Energy website for more detailed information and videos.



CEWD has developed a boot-camp-style career exploration course designed for women to explore non-traditional, in-demand jobs in the construction and energy industries. The boot camp, Get Into Energy: Women, uses the Women in Sustainable Employment (WISE) Pathways curriculum and is being piloted in early 2014 through a partnership with Washington Gas, Pepco, NPL, and UtiliQuest.

Available now for members: Updated ShopCEWD site and branding material; discounted material from NEF through ShopCEWD; and WISE Pathways course material on the CEWD Curriculum site.

Next steps: Publish a “Get Into Energy: Women” toolkit and roll out to membership.



Education and Training

CEWD continues to expand the resources and tools available to members to implement the Get Into Energy Career Pathways model and credentialing. The Energy Industry Fundamentals (EIF) Certificate and supporting curriculum is being implemented by 29 approved providers. In 2013, CEWD created a community of practice for approved providers to share best practices and to learn from each other. Information on EIF and the curriculum is openly available at no cost to interested educators on the CEWD Curriculum site.

CEWD has also included a special site for education members in the new Member Wizard. The site pulls together resources, best practices, and tools specifically focused on the education community.

National Energy Education Network (NEEN) Meeting

“E2: The Power of Energy and Education” was the theme of the 2013 National Energy Education Network (NEEN) meeting, sponsored by the Lumina Foundation and held in Indianapolis. The purpose of the highly interactive meeting was to bring together industry partners and educational partners from across the country to share successful examples of partnership in attracting, developing, and hiring a qualified energy workforce. More than 100 registrants took the opportunity to learn through breakout sessions, panel discussions, tabletop exercises, and from powerful speakers, including Keynotes Bob Powers, CEO of American Electric Power, and Jamie Merisotis, President and CEO of the Lumina Foundation.

Change in the industry was a repetitive theme during the day-and-a-half meeting. In 2006, it appeared that many skilled technicians in the industry would retire, CEWD would help energy companies replace the retirees, and CEWD’s work would essentially be done by 2012. But the downturn in the economy slowed anticipated retirements. In 2013, the industry is just beginning to see the impacts of anticipated retirements, and it’s more important than ever that industry and education work together to implement programs that graduate qualified applicants for jobs as retirements occur in pockets or clusters, a phenomenon Powers referred to as “the cluster effect.” See the full 2012 NEEN Meeting report at [this link](#) and put a hold on your calendar for the 2014 NEEN Meeting, which is scheduled for June 19-20 in Kansas City, MO.

Natural Gas Boot Camp

The Natural Gas Boot Camp was developed in a partnership between CEWD and the Midwest Energy Association (MEA). It is a ten-week program which incorporates the Energy Industry Fundamentals; the Math Boot Camp; resume and interviewing skills; and natural gas technician-specific skills, such as safety, piping, valves, excavation, customer service, and corrosion. This introductory course is designed for individuals who are interested in the natural gas industry, but have limited knowledge of the work.

The program provides students with an understanding of the principles of natural gas, how to use natural gas in a manner that is safe for the public, and the types of tools and equipment used in the industry. The boot camp was piloted in 2012 by DTE Energy, Consumers Energy, and Pacific Gas & Electric. Their comments and feedback were used to make changes to the program including development of instructor guides and removing some of the more advanced courses. This is an instructor-led online program that incorporates classroom training and hands-on activities to give participants actual work experience. CEWD members have access to the Natural Gas Boot Camp through the CEWD [curriculum site](#) and MEA.

Introductory Core Technical Competencies

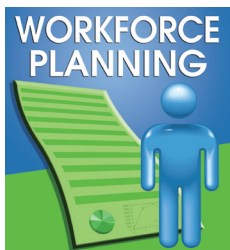
Over the past year, CEWD worked with a group of member companies and their education partners to identify introductory core technical competencies that anyone coming into the energy industry should have. They were defined as Safety, Basic Electricity, Technical Math, Use of Hand and Power Tools, and Print Reading. Being able to demonstrate these competencies would provide students with a basic understanding of the tools and terminology used in the industry. The team convened at the 2013 NEEN

meeting to review the final set of detailed competencies and a process by which a school could indicate that its energy program covered these competencies.

Based on the team's input, CEWD has developed a Core Technical Competency Gap Analysis Tool and a process for a school to apply to get CEWD endorsement of its energy-related program(s). The utility partner will submit an application stating that its educational partner meets the competency requirement and should be endorsed. The educational institution will complete the gap analysis showing its course support of the competencies and, if there are gaps, a plan to close those gaps. A "stamp" has been developed that endorsed schools can add to their websites for each program that teaches to the Core Technical Competencies. Educational institutions will also be asked to provide student enrollment and completion data for their programs.

Available now for members: Curriculum including instructor and student guides for the Natural Gas Boot Camp, Energy Industry Fundamentals, and other vetted curriculum are available on the CEWD Curriculum site.

Next steps: Communication and roll out of Core Technical Competency endorsement and expansion of the EIF Community of Practice and approved providers.



Workforce Planning

Working with a team of subject matter experts on the CEWD Workforce Planning Council, CEWD has created a model for Strategic Workforce Planning for members. The model phases, templates, and resources are for use in developing a company- or state-level workforce plan. All four quadrants of the model were completed in 2013 and work is underway to develop a toolkit with all the resources included.

2013 Gaps in Energy Workforce Survey

In 2013, electric and natural gas utilities across the country completed a detailed survey on the workforce size, age, and years of service, along with actual and projected hiring and attrition rates of the existing generation, transmission, and distribution workforce. The survey requested actual data as of December 31, 2012, and projected data through 2018. The information collected from industry was supplemented with data from Economic Modeling Specialists International (EMSI). The data collected from utilities represent about two-thirds of the total employee population of the industry. The 2013 survey was administered by VEMO.

Individual companies who completed the survey have access to a scorecard that shows their results compared to the national totals. The Executive Summary is available on the CEWD site and can be used for communication of survey results.

2013 Demand Reports

CEWD contracted with EMSI to develop employee demand reports. These reports show the demand trends nationally, by region, and by state for five major utility categories (electric distribution, natural gas, bulk transmission, nuclear generation, and non-nuclear generation) and four job categories (Lineworkers, Technicians, Power Plant Operators, and Engineers). The reports are used by state energy consortia to balance the supply (students coming out of energy programs) with the demand for energy jobs. This helps them to determine what types of programs are needed and where within the state. The data on the reports are also used for state consortia that are applying for state and federal training grants. The final reports are on the CEWD website.

Available now for members: Detailed presentation on 2013 Survey results; national, regional, and state demand reports; and strategic workforce planning presentations and template.

Next steps: Completion of the Strategic Workforce Planning Toolkit and implementation support for members.



Member Value and Support

This year, CEWD implemented a new Member Wizard. The Wizard enables members to quickly find the information they are looking for, while also providing guidance for implementation of important initiatives such as developing a strategic workforce plan, credentialing, and building awareness of energy careers. Check out the new Wizard in the members-only section of the CEWD website.

CEWD continues to communicate with members on a regular basis through its monthly newsletters that highlight company and national best practices, CEWD resources, and other news. The CEWD and Get Into Energy Facebook pages are updated on a weekly basis. Students and others can “like” the pages to get frequent updates.

As it does every year, CEWD conducted regional meetings, a National Forum, and the National Summit, along with the NEEN meeting to bring members together to share best practices and ideas and to hear the latest developments in energy workforce development.

Highlights from 2014 Goals

- Create a diversity toolkit and templates for company implementation
- Develop framework and curriculum for high school energy career academies
- Complete National Energy Workforce Plan
- Design and manage Knowledge Capture System for Arizona Sun Corridor grant deliverables and best practices; create toolkits/templates for replication
- Implement executive communication plan to include business case, talking points, and increasing executive sponsorship for state consortia
- Launch a Troops to Energy Jobs Community of Practice

For a look at all the goals, go to www.cewd.org and click on About Us.