



Mission: Build the alliances, processes, and tools to develop tomorrow's energy workforce.

March 2016 commemorated the 10th anniversary of the Center for Energy Workforce Development (CEWD). To mark the occasion, the CEWD Board undertook a significant strategic planning effort that looked at where we were and where we needed to be in the future. CEWD organized and led several sessions with the CEWD Board of Directors and Executive Council, employing our own Strategic Workforce Planning process. These sessions led to a fresh look at game changers for the energy industry, the implications on both “key jobs” and upcoming jobs, and identification of actions CEWD and its member companies, associations, and educators can take to develop talent pipelines and meet the needs of the future workforce. To see the results of the strategic planning effort, go to <http://www.cewd.org/Documents/CEWD-GameChangers-Final.pdf>.

Other outcomes of the work with the Board and Executive Council included a revamped Get Into Energy Career Pathways document linking the pathways diagrams with the CEWD competency pyramid (<http://www.cewd.org/Documents/GIE-CareerPathways-SkilledTechnicians-Final.pdf>) and a new CEWD Member Summary (<http://www.cewd.org/Documents/CEWD-MemberSummary-Final.pdf>). A summation of this effort in context with national changes in the Energy Industry was captured in the 2016 State of the Energy Workforce report (<http://www.cewd.org/Documents/SOTI2016-Final-Nov16.pdf>), which debuted with CEWD members at the 2016 Annual Summit.

CEWD has created a national collaboration of education, industry, and government to replicate the processes, curriculum, and tools that save member companies time and money in creating the next generation of energy workers. It is CEWD's mission to make these tools and resources available to its members so that they may be implemented industry-wide. Our work is organized in four strategic pillars for CEWD: Career Awareness, Workforce Development/ Education, Workforce Planning, and Member Value and Support. Details on specific accomplishments in each of these areas follow in this report.

CEWD initiatives are funded primarily through generous contributions from our Electric and Natural Gas Utility members, the major trade associations (EEI, NEI, AGA, NRECA, and APPA), and through substantial in kind contributions for back office support from the Edison Electric Institute.

2016 CEWD Accomplishments

In late 2016, CEWD received an Innovation Grant from the National Network of Business and Industry Associations (NNBIA). The grant was for research and implementation of a digital credential for Energy Industry Fundamentals and research in how member companies recognize applicant credentials through recruiting and screening processes. Focus groups with several companies were held, with a great deal of curiosity about how digital credentials can be used by employers. Feedback from the membership is being considered as CEWD continues to move forward with the future trends in credentialing, but does so in a manner which is sensitive to the requirements of companies' applicant tracking systems and recruiting processes.

Career Awareness

Build awareness of the need for a diverse, skilled energy workforce.

CEWD and its members engaged in a wide variety of career awareness activities in 2016. Career awareness activities are aimed at five key demographics: youth, low income young adults, women, veterans, and transitioning workers. The overall intent of these activities is to make it easier for students and jobseekers to find us, understand our jobs, and understand what education pathways will lead to an energy job.

CEWD's national energy career awareness website, Get Into Energy (<http://www.getintoenergy.com/>), provides resources for each key demographic to understand the pathways for critical jobs, where to find training, a jobs site that lists all jobs currently posted by CEWD members, and a site for active-duty military or veterans to register their interest in energy jobs. In 2016, visitors to the Get Into Energy site stayed on the site longer and looked at more on each visit. Specifically, there was a 64% increase in visitors to the site from 2015, and an increase from two to three pages viewed per session.

For the Jobs and Registration sites, the results were also significant:

Get Into Energy Jobs: Students and jobseekers can access real-time job postings from CEWD members on the Get Into Energy Jobs site, <http://getintoenergy.jobs/>. All jobs from member companies are posted nightly and can be filtered based on location, job title, or key words. In 2016, the site had almost 30,000 visits and a little over 11% of visitors clicked through to the company application site.



2016 CEWD Accomplishments

Troops to Energy Jobs: The companion job posting site for Troops to Energy Jobs, <http://troopstoenergy.jobs/>, had an additional 30,000 visits with almost 10% of visitors clicking through to the company application site. Veterans can filter jobs through a unique-to-CEWD military occupation code translator that ties military jobs more specifically to utility critical jobs.

Troops to Energy Jobs Registration: The Troops to Energy Jobs registration site, <http://troopstoenergyjobs.com/registration/>, allows veterans to enter basic information about themselves (like military occupation, field of expertise, resumes, geographical area they'd like to work in) and see information about companies located in their region. Companies can enter information about their recruiting staff so that veterans have a point of contact. Over 2,000 veterans and 150 companies are currently registered on the site.

At least 18 states celebrated **Careers in Energy Week** with activities such as open houses, tours, video contests, events on military bases, and social media. Careers in Energy Week even occurred during the Lineman's Rodeo in 2016! CEWD provided resources for members to use, including posters and brochures, along with social media, as well as an interactive map on the CEWD site to keep up with all the activities: <http://www.cewd.org/state-consortia/>.

Increasing diversity in the talent pipeline continues to be a driving force behind member company workforce development efforts. To that end, CEWD in 2016 organized a Diversity Advisory Group of member companies and educators to provide strategic direction in our activities.

Many of CEWD's existing resources were used in diversity efforts by targeting specific demographics or underrepresented areas. For example, summer camps, coaching and mentoring initiatives, career and employability workshops, and building strategic alliances supported diversity initiatives. In 2016, CEWD made significant progress on the goal to highlight tools, templates, and best practices that work on increasing diversity. Examples of progress made toward this important goal include:

- At each Regional Meeting, an optional workshop, ***Building a Pipeline of Women and Girls***, was available to member companies. These hands-on workshops provided attendees the opportunity to think strategically about the best fit for a pipeline program for their situations and to work through the development of an action plan.
- The **Women in Sustainable Employment (WISE) Pathways** model was implemented in New Jersey on two occasions, where PSEG, New Jersey Resources Corporation, Burlington County College, and several other partners worked together to host a total of 35 women for a 40-hour workshop focused on nontraditional careers, with 14 of them securing employment as a result of the program. The toolkit to host this program is available on the CEWD Curriculum Site.

2016 CEWD Accomplishments

- Developed by Alabama Power, the *iCan Engineering Awareness Program for Girls* creates a fun, girls-only environment for learning while sparking an interest in engineering. The primary goal is to empower and encourage young women through focusing on the rewards and benefits of being an engineer. CEWD has created a toolkit for companies to start their own iCan programs.
- One of the most effective examples of implementation of the Career Pathways Model with the low income young adult population is **Legacy I³**, which was developed in 2012 by TCI Solutions LLC, in Arizona and is now being implemented in Minnesota with support from Xcel Energy and the Minnesota Energy Consortium. Legacy I³ was developed to identify and systematically address the factors that cause industries to falter in attracting, developing, and retaining qualified, local, and diverse young adults. It is based on a collaborative approach that synchronizes and leverages existing resources from industry, education, and support organizations and prepares high school juniors and seniors for entry-level employment or further education. Of the 124 students who had graduated from the Legacy program as of September 2016, all are either currently working in their field or are in postsecondary programs pursuing degrees.
- In recognition of October as National Disability Employment Awareness Month (NDEAM), CEWD partnered with the Department of Labor Employer Assistance and Resource Network on Disability Inclusion (EARN) to provide a two-part webinar series. The sessions, aligned with the Department of Labor's annual NDEAM theme, #InclusionWorks, highlighted strategies to diversify the energy workforce to include **individuals with disabilities**. Recordings of the webinars, along with an InfoBrief *Business Strategies that Work: Disability Inclusion in the Energy Workplace*, can be found on the CEWD website at <http://www.cewd.org/Documents/EARN-CEWD-InfoBrief.pdf>.
- CEWD and the **National Utility Diversity Council (NUDC)** formed an official partnership in 2016, which included collaborating on a virtual panel, *Is Having a College Degree Necessary for a Successful Career in the Utilities and Communications Industries?* CEWD also participated in NUDC's Brooklyn Brainstorming session for their national conference.

2016 CEWD Accomplishments

Other new tools and Career Awareness activities include:

Get Into Energy Registration Site

The Get Into Energy Registration Site was designed to help graduating students of National Energy Education Network (NEEN) programs get connected to companies offering exciting careers in the energy industry. Using a brief form, jobseekers register by entering their basic personal information, as well as uploading a resume into the jobseekers' database. Registration eligibility is limited to students of NEEN institutions. The site also allows employers to connect directly with jobseekers interested in jobs within their service territory. To support the site, CEWD developed a toolkit containing an Instructor Guide, Student Guide, and Industry Partner Guide.

Get Into Energy / Get Into STEM Registration Site

The CEWD Get Into Energy / Get Into STEM Registration Site is a user-friendly system available to CEWD members and serves as a repository for all of their company activities related to FIRST® Robotics. Member company administrators have the capability to pull reports and summary information on the data entered by their employees and for their company, including a company dashboard.

CEWD is also able to access information and reports for all data entered into the system, enabling the energy industry to get a good understanding of the total level of involvement in FIRST®. The system also maintains historical data to allow for comparison year over year. CEWD has developed a toolkit containing a Company Administrator Guide and an Employee Guide.

Get Into Energy / Get Into STEM with FIRST®

In 2015/2016, the CEWD member sponsors of the FIRST® initiative included: AEP, AGL, Consumers Energy, DTE Energy, Duke Energy, Edison International, Exelon, NextEra Energy, Pacific Gas and Electric, PSEG, and Southern Company.

The sponsors provided funding to support the implementation of the Get Into Energy / Get Into STEM initiative. This funding provided sponsorships during the 2016 Super Regional and National FIRST® competitions (FIRST® Robotics, FIRST® Tech Challenge, and FIRST® LEGO League) that included branding, onsite robot doctors, and exhibit space. The sponsorship also covered technology transfer grants for more than 1,100 FIRST® teams.



In addition, CEWD and EEI provided coordinated social media coverage for the Get Into Energy / Get Into STEM initiative and the companies involved in the effort. Through Instagram, Twitter, and Facebook posts, the events leading up to the competitions and real-time updates were broadcast out to the FIRST® community.

2016 CEWD Accomplishments

Get Into Energy / Get Into STEM sponsored technology grants for over 1,100 FIRST® Tech teams by covering their fee for the new technology platform. Most notably, 36% of the teams making it to the Super Regionals were sponsored by CEWD, and of those, 38% of them advanced to the World Championship.

To support our member companies, CEWD expanded its FIRST® toolkit to include best practices of how companies are supporting FIRST®. The toolkit is available on the CEWD website at <http://www.cewd.org/FIRST/>.

Workforce Development/Education

Implement short and long term education solutions to build a pipeline of skilled workers.

Since its beginning, CEWD has focused on developing education solutions—from competency models and career pathways to curriculum and credentials—that prepare students for jobs in the industry. These focused solutions are being implemented through partnerships between educators and member companies across the country. These partnerships span the student lifecycle from initial career interest through graduation and employment and are a critical element in communicating to students and job seekers the competencies and credentials that are required, preferred, and recognized by employers, and are being used in hiring decisions.

Over the past five years, CEWD has worked to create **the National Energy Education Network (NEEN)**, a national consortium of utilities and their education partners. Members of NEEN include community colleges and other educational institutions that have active partnerships with CEWD member companies, have relevant programs of study for our four critical job categories (Lineworkers, Technicians, Operators, and Engineers), and are producing quality candidates who are being hired into industry jobs. These partnerships and programs provide the baseline for documenting what works, sharing curriculum and practices, and identifying the potential pool (supply) of candidates from high schools, technical and community colleges, and universities. The existing databases of education programs on the Get Into Energy and CEWD websites have been revised with this new information to provide students, as well as military veterans, with the best possible information on energy pathways. In 2016, CEWD updated the website and administrative functions to enable members to manage institution and program information. Information on NEEN can be found at <http://cewd.org/neen/>.



2016 CEWD Accomplishments

CEWD provided significant support to members implementing the **Get Into Energy Career Pathways** Model, Curriculum, and Credentials:

There are now 54 active **Energy Industry Fundamentals (EIF)** Approved Course Providers, an increase of 43% from 2015. Several new states added Approved Course Providers, including Tennessee, Illinois, Nebraska, and New York. Six of our Providers have their own online shells and are actively using the online version in a blended learning approach. From inception to date, 2,567 students have taken the assessment and 1,876 credentials have been awarded. There were 593 EIF Credentials awarded in 2016, with a credential attainment rate of 74%. In 2016, CEWD contracted with a new assessment vendor, Assessment Systems. The new system provides much more flexibility and freedom, such as a reporting mechanism where instructors can see how students score on each question, making areas for improvement front and center.

NNBIA sponsored the development of an Employer Toolkit focused on assessing candidates and providing opportunities for potential employees to learn and practice **Common Employability Skills (CES)**. The focus of the Toolkit is on entry-level employees with little or no work experience. It provides an overview of the types of assessments most likely to be used to assess an individual's CES pre-hire as well as less formal, such as Behavioral Interviewing. It also provides suggestions for teaching and practicing CES through work-based learning, and therefore, increase a candidate's chances of success.

In 2016, CEWD and the National Education Foundation (NEF) released over 130 hours of curriculum for **middle school**. It includes a wealth of hands-on, energy-related activities as well as background information on energy careers. The curriculum was showcased at the Summit in November. In addition, staff continues to provide support to members utilizing CEWD's **high school curriculum**.

Workforce Planning

Identify critical workforce needs and measure the success of workforce development initiatives.

Strategic Workforce planning has become more critical each year as the transformation of the industry and specifically the Industry Game Changers are impacting the timing, skills, and number of jobs that are needed in the future. Effective planning requires a forward-looking approach to workforce planning that also enables companies to plan and execute strategic workforce development initiatives to balance the supply and demand for future energy employees. The CEWD Strategic Workforce Planning Model and Member Wizard were updated in 2016 with additional tools and templates in 2016, including a new guide to defining critical jobs and best practices in predicting workforce requirements from the Workforce Planning Council Workforce Analytics Team.

2016 CEWD Accomplishments

In early 2016, the Executive Summary of the findings from the 2015 Gaps in the Energy Workforce Survey was published and presented at multiple public and CEWD forums. It can be found at <http://www.cewd.org/surveyreport/CEWD2015SurveySummary.pdf>. During 2016, CEWD also made significant modifications to improve the process in collecting data for the 2017 Gaps in the Energy Workforce Survey as well as the forecasting and report of demand data. The changes were made with the support and input of the Workforce Planning Council and CEWD members who completed the survey in 2015.

Also during 2016, CEWD worked with several state energy workforce consortia to either develop or update their 3–5-year workforce strategic plans. In-depth reviews of existing plans occurred in Ohio, Michigan, Illinois, Wisconsin, Nebraska, Kansas, Florida, Georgia, Connecticut, New York, and Virginia. A new plan was developed in Iowa. In each case, the state consortia members reviewed national and state game changers, collected or revised demand data, and organized to implement actions supporting their plan's areas of strategic focus.

Member Value and Support

Support the needs of CEWD members.

CEWD continues to provide member communication through monthly newsletters highlighting company and national best practices and CEWD resources; social media channels; webinars; and the CEWD websites, including Get Into Energy, Troops to Energy Jobs, and the CEWD Curriculum site. In addition, CEWD represents the industry at multiple national and state events to build awareness of the need for skilled technicians and engineers.

CEWD also hosted national and regional meetings for members and their partners to meet face-to-face to share best practices and hear from experts on the most effective ways to build the energy workforce. CEWD was able to reach hundreds of interested members during 2016 through five regional meetings as well as the National Energy Education Network meeting, the National Forum for state energy workforce consortia leadership, and the Annual Summit.

Over 175 energy workforce practitioners attended the 11th CEWD Annual Summit to discuss ways that energy companies can improve their workforce development initiatives. A summary of the Summit can be accessed at <http://cewd.org/Documents/CEWD-SummitSummary2016-FNL.pdf> and the National Forum summary is available at <http://www.cewd.org/Documents/2016NationalForumSummary-FNL.pdf>.

Information on upcoming CEWD meetings and events can be found on the homepage at www.cewd.org.

2016 CEWD Accomplishments

CEWD maintains several existing Communities of Practice and started a new one in 2016:

GIECP Community: The Get Into Energy Career Pathways Community was developed to encourage sharing ideas and best practices as well as discussion. Members and other interested parties can access these materials at <http://giecpcommunity.ning.com/learn>, where they will find numerous tools and resources that are available to the energy industry as a whole. Members can “connect” to discuss topics such as credentialing, career coaching, and recruitment and outreach through several online sub-communities.

Troops to Energy Jobs Community: Each quarter, interested member company representatives meet through teleconference to discuss current practices and events in military recruiting, training, and retention. There are 44 member companies who have officially committed to the Troops to Energy Jobs objectives. This community also serves as advisors to the Utility Industry Workforce Initiative, a collaboration among five federal agencies, EEI, AGA, NRECA, NEI, APPA, IBEW, and UWUA.

Energy Industry Fundamentals (EIF) Community: The EIF Approved Providers Community of Practice provides EIF curriculum and credential implementation support to a growing network of EIF educators. This group shares ideas on what has been successful teaching the course. This community meets monthly via conference call.

High School Energy Academy Community: The High School Energy Academy Community of Practice represents several states that are in all stages of implementing high school academies. The group has quarterly conference calls and shares resources.

Career Clusters Community: Several states are involved in efforts to add a 17th Career Cluster in Energy. While each state is different, there are commonalities, which members are able to share through the Career Clusters Community. This group also has quarterly calls and shares resources.

Strengthening Education Partnerships: A How-to Guide for Industry

The guide is a companion piece to the 2015 Industry/Education Partnership Summit Toolkit and outlines the steps companies and state energy workforce consortia should take to identify and engage those educational institutions that are needed to build a pipeline of talent. It is available at <http://www.cewd.org/toolkits/industry-education-partnership/StrengtheningEducationPartnerships-FNL.pdf>.

2016 CEWD Accomplishments

CEWD made great strides during 2016 in providing support to existing and new State Energy Workforce Consortia. These consortia are the boots on the ground for implementing many of the best practices that are improving the return on workforce efforts. There are currently 30 states involved in consortia efforts at some level. CEWD provides support to start, maintain, or reenergize consortia work. Just a few of the state consortia contributions in 2016 are highlighted below, but a full list of Accomplishments can be found on the CEWD website.

17th Career Cluster in Michigan

As a result of work sponsored by a 2015 grant to the Michigan Energy Workforce Development Consortium from the U.S. Chamber of Commerce Foundation, the Michigan Department of Education approved a 17th career cluster in energy for the State of Michigan in early 2016. The designation is speeding the development of career pathways for line technicians and gas technicians from high school CTE programs into partnered postsecondary programs and into hiring by DTE Energy and Consumers Energy.

Legacy I³ Program in Minnesota

The Minnesota Energy Consortium began a successful pilot of TCI Solutions' Legacy I³ program in partnership with Xcel Energy and in 2016 graduated the first pilot class of students. Since the successful pilot, Minnesota has launched the Minnesota Legacy 2016-17 program in three urban high schools. Approximately 45 diverse high school students in these schools began their journey through the Legacy CORE training program in 2016.

New State Energy Workforce Consortium in Iowa

Alliant Energy took the lead in organizing Iowa energy companies to reenergize the Iowa Energy Workforce Consortium in early 2016. Participating companies are Alliant Energy, MidAmerican Energy, ITC Midwest, Central Iowa Power Coop, Black Hills Energy, and Pella Electric. At their December full membership meeting, the group engaged contractors and educators in the state. Work is well underway through four taskforces to finalize the state's 3-year strategic workforce plan.

Colorado Focused on Hiring Veterans

Member companies, along with the Colorado Department of Labor and Employment, focused efforts in 2016 to increase their outreach to the veteran population. They organized and held three large face-to-face job fair type events and, as a first for the Consortium, held a virtual event during Careers in Energy Week.

2016 CEWD Accomplishments

Establishing an Energy Career Pathway in Virginia

VEWC has two high schools in the state that have been offering the Energy and Power certificate course (EIF) since fall 2015. They conducted an Energy Workshop for Teachers in July to gain additional interest in offering the course. They have interest from four other schools to begin teaching the course. There are also two community colleges who began offering an Energy Technology Career Studies Certificate (CEWD Introductory Core Curriculum) in fall 2016. VEWC has been working with the Virginia Community College System on hosting a summit with CTE and community college leaders from around the state in February 2017 to discuss the demand for and interest in creating an energy career pathway within the STEM cluster.

New York Troops to Energy Jobs Consortium Focused on Hiring Veterans

Two member companies worked diligently with Fort Drum to implement a SkillBridge program for active servicemen within six months of transitioning out of the military. The program is being taught at Jefferson Community College by a retired utility employee, and started on January 9 with 15 soldiers. Both Con Edison and National Grid were involved in the development and implementation of the bootcamp. 100% of the soldiers passed the pre-employment testing, which was the first screen in the process.

In 2016, CEWD continued to provide implementation support to State Energy Workforce Consortia through its regional consultant model. Consultants Rosa Schmidt in the Northeast, MidAtlantic, and Southeast Regions; Beth Britt in the Midwest Region; and Ray Kelly in the Northwest, West, and South Regions collectively provided direct support to their state consortia more than 200 times through face-to-face meetings, teleconferences, and webinars. Additionally, they organized several significant cross-regional benchmarking efforts to accelerate consortium efforts. These three consultants joined CEWD following successful careers in major energy companies and have organized and led State Energy Workforce Consortia during their previous careers.

Ten quick ways to get more from your CEWD Membership

Career Awareness

1. Verify that your company jobs are posted on the jobs sites.
2. Make sure that your company is registered on the Troops to Energy Jobs Registration site and the Get Into Energy Registration site.
3. Add the link to Get Into Energy on your company website: <http://getintoenergy.com/about/badge.php>. Contact Rosa Schmidt at rosa@cewd.org for more information on how to get involved with Get Into Energy / Get Into STEM.

Education

4. Are your education partners on the NEEN List? Nominate them using the link on the CEWD homepage.
5. Include the link for the Get Into Energy Math and Test Prep self-study on your company recruiting page.
6. Hold a meeting or webinar to educate others in your company on the resources available through CEWD.

Workforce Planning

7. Use the assessment in the Strategic Workforce Planning Wizard to assess the health of your company's Workforce Planning Process.

Structure and Support

8. Join a State Energy Workforce Consortium.
9. Attend a CEWD regional meeting and the Annual Summit.
10. Join a CEWD Community of Practice.

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For more information, please visit:

www.cewd.org • www.getintoenergy.com • www.troopstoenergyjobs.com

Facebook: [Center for Energy Workforce Development \(CEWD\)](https://www.facebook.com/CenterforEnergyWorkforceDevelopment) • Twitter: [@GetIntoEnergy](https://twitter.com/GetIntoEnergy)

