

Overview

Energy jobs offer promising opportunities to both experienced and new workers. The industry as a whole is projected to experience growth in the coming years, particularly with the increase in public investments in renewable energy, clean energy generation, energy efficiency and the Smart Grid. The growth in demand coincides with the large projected retirements in the industry. Energy employers will need skilled workers for traditional energy as well as future energy-related generation, transmission and distribution positions. These are jobs that are active, hands-on, rewarding and are available in every state in the country. In addition, they are jobs in an industry where adding new skills translates into additional opportunities to make more money. As new technologies are created, workers will need new skills to install and operate the new energy systems, and this means new job opportunities in a stable and growing industry.

The GIE Career Pathways Model is built on the principles of:

- Targeted outreach and support for students and potential applicants through recruiting and employment.
- A pathways system of curriculum leading to a portable articulated portfolio of credentials and degrees.
- Employer involvement in all phases of workforce development leading to employment.

The Get Into Energy (GIE) Career Pathways Model provides a roadmap for entry into skilled utility technician positions in the energy industry with pathways to higher-level jobs in a variety of work settings.

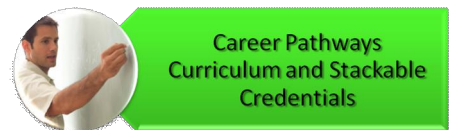
Summary of the Pathway Model

The pathways model focuses on the needs of three stakeholder groups: students and potential applicants; educators; and employers. The system is divided into key modules supporting these stakeholders, including GIE Outreach and Career Coaching, Career Pathways Curriculum and Stackable Credentials, and Employer Collaboration and Support.

Get Into Energy Outreach and Career Coaching

Purpose: Provide outreach and support to students and potential applicants

- **Targeted Career Awareness Campaigns:** outreach using the Get Into Energy brand and website, along with a variety of other materials, to encourage and communicate energy career pathways
- **Career and Education Advising and Guidance:** an established model for advising and guiding those interested in pursuing energy careers, offering information on education and employment opportunities to a specific target population, and helping to navigate to a career in energy



Career Pathways Curriculum and Stackable Credentials

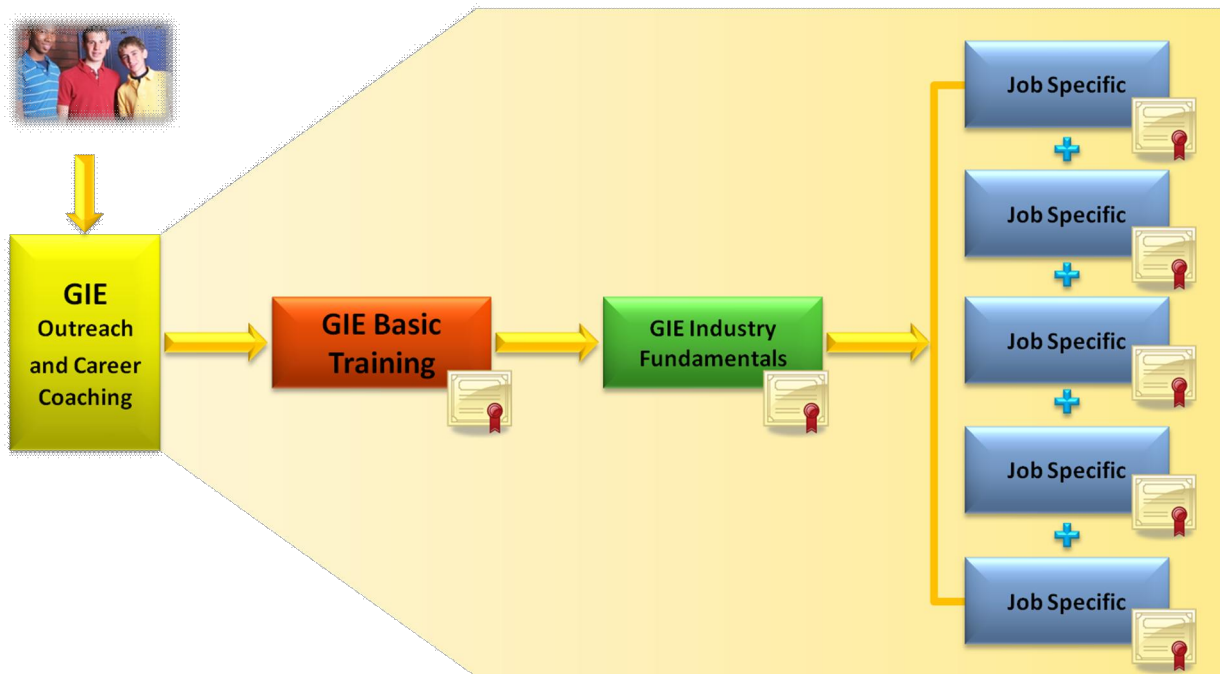
Purpose: Provide an education framework for career preparation

- **Stackable Credentials:** a clearly-defined system of competencies and industry recognized credentials that are linked to employment opportunities and advancement
- **Uniform Curriculum:** curriculum based on industry-supported guidelines that leverage existing courses and best practices
- **Education Network:** a network of high schools and postsecondary institutions, including community and technical colleges and four year institutions, with career pathways programs for the energy industry and strong articulation between and among high schools and postsecondary institutions, including the providers of online approaches to degree and certificate programs

Employer Collaboration and Support

Purpose: Encourage partnerships, building on the successful Energy Workforce Consortia model

- **State Energy Workforce Consortia:** a model for employer collaboration with education and government to develop a qualified worker pipeline balancing workforce supply and demand
- **Employment Opportunities:** a variety of entry-points for job candidates, including internships and career pathways to higher skilled jobs in energy, as well as ongoing workforce development programs



The Get Into Energy Support Network reaches out to assist candidates through the entire career pathway

Get Into Energy Career Pathways Components

Get Into Energy Outreach and Career Coaching

While the current workforce and education systems offer multiple benefits and resources to support the needs of job seekers, the system can be difficult to navigate, even for older adults. All ages and skill levels need guidance in choosing the right career path for their interests and abilities, and they need information about how to prepare for these careers. They may need to have their skills, interests, and aptitudes assessed, and may need assistance developing an action plan for reaching career and educational goals.

Targeted Career Awareness Campaigns

The Get Into Energy portal offers education and career information on energy jobs that is tailored to specific audiences. The site provides career assessments, videos on energy and specific careers, education and skill requirements and links to employers. The career awareness campaign is also supported by print material in a variety of media, including brochures, posters, postcards, pocket cards and PowerPoint presentations. The Get Into Energy brand can be customized for state consortium use or co-branded by energy companies, and can be used to develop targeted, regional campaigns that are linked to a national brand.



Career and Education Advising and Guidance

Individuals, particularly young adults, may need help in navigating various educational options at different stages of their career action plan. They may also need encouragement and moral support to persist toward their goals. Career coaches, specifically trained to provide information on energy careers using guidebooks and tools, can provide education counseling, access to state and local resources, access to employment testing, and connections to employers. Coaches may be supplied by the state, community colleges, or employers and receive specific training on and resources specific to the energy industry jobs.

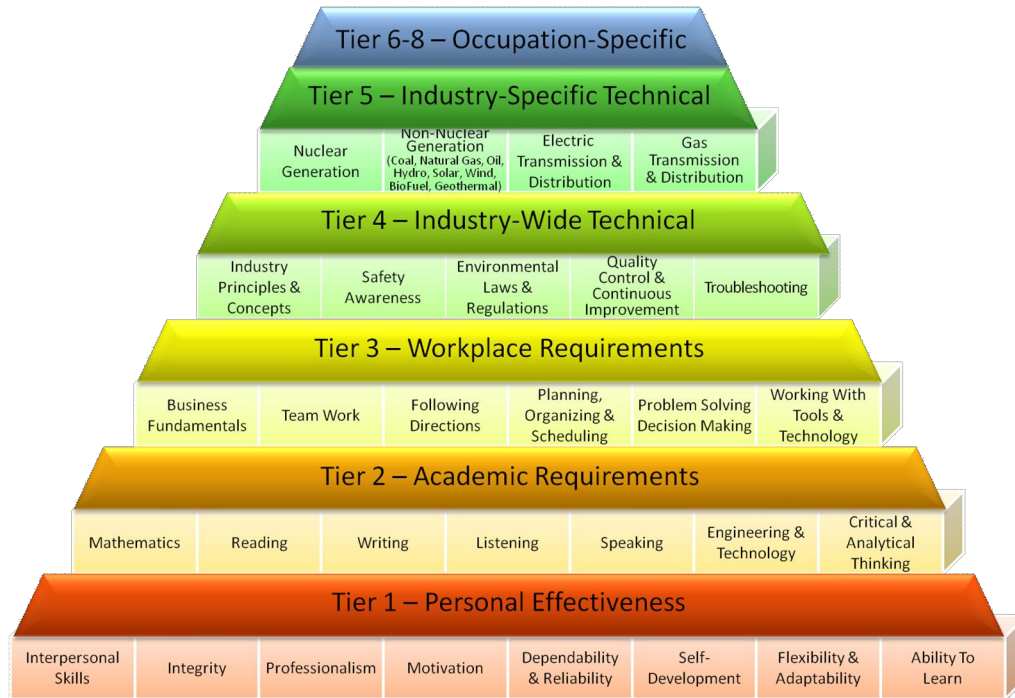


Career Pathways Curriculum and Stackable Credentials

The energy industry provides a wide range of advancement opportunities for its workers, but all skilled technician positions require some level of postsecondary education that includes pre-apprenticeships, technical certificates, associate degrees and bachelor degrees. With additional training come opportunities to take on higher-skilled work and earn higher pay. Key to this effort is the development of a more standardized approach to skills and credentials in the industry, as well as the development of a highly responsive network of educational providers. The development of a system that supports common competencies and curriculum will provide a more cohesive energy education system.

Industry Supported Competencies and Stackable Credentials

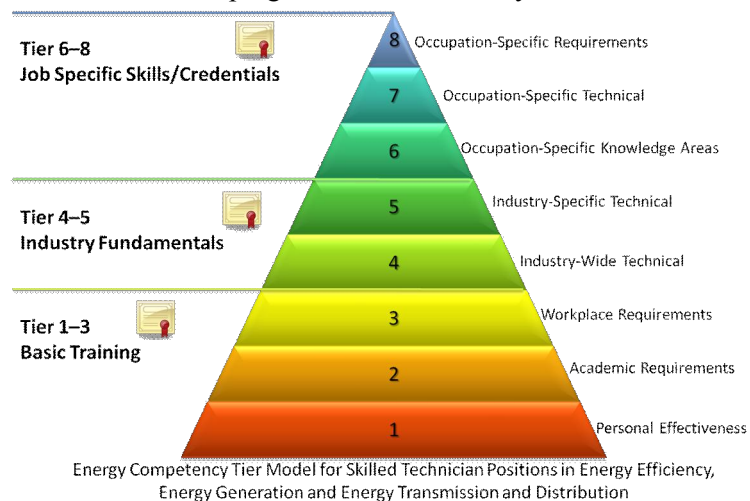
CEWD, in partnership with US DOL, has developed an Energy Competency Model that defines basic competencies, industry fundamentals, industry technical competencies and job specific competencies in eight separate tiers. Tiers 1-4 define the common competencies required for any position in an electric and natural gas utility. Tier 5 identifies competencies that are unique to positions in four industry functions - Nuclear Generation, Non-Nuclear Generation (Coal, Natural Gas, Oil, Hydro, Solar, Wind, Biofuel or Geothermal), Electric Transmission & Distribution, and Gas Transmission & Distribution. Details for Tiers 6-8 define competencies that are specific to individual occupations.



Each tier of the competency model leads to the next and mastery of each level is required for success. In the Get Into Energy Career Pathways Model, education and training that supports the attainment of competency in Tiers 1 -3 is called Basic Training; competency in Tiers 4 -5 is called Industry Fundamentals; and competency in the occupation-specific requirements for utility technician positions in Tiers 5-8 is called Job Specific Skills and Credentials. Grouping the skills in this way allows for the

development of common curriculum and education requirements that correspond to the Get Into Energy Career Pathways model. This system of “stackable credentials” includes assessments to validate knowledge and skills learned in the classroom as well as on the job, resulting in industry-recognized credentials that are transportable from one company to another. It also allows for flexibility and pathways for career advancement.

There is an appropriate level of education for instruction for each tier



of the competency model. For example, personal effectiveness skills are best taught at the secondary or pre-apprenticeship level. Competencies and training can be mapped to the entire education continuum to align education and training to the needs of the industry. Applicants should enter energy careers with the appropriate post secondary credential to be successful.

Training	Competencies	Secondary	Pre-apprentice	Certificate Programs	2 year degree and OJT	Apprenticeship
Basic	Tier 1 Personal Effectiveness	→				
	Tier 2 Academic	→				
	Tier 3 Workplace Competencies		→			
Fundamental	Tier 4 Industry – Wide Technical			→		
	Tier 5 Industry Sector Technical			→		
Job specific	Tier 6 - 8 Occupation – specific knowledge and skill requirements			→		

Stackable credentials at each level for Utility Technician Positions

Uniform Curriculum

The goals of uniform curriculum include:

- Reducing redundancy and overlap of programs to help ensure industry-sponsored programs are viable
- Managing the expansion and content of programs offered
- Leveraging investments by sharing curriculum, best practices and innovations
- Increasing the knowledge and skills of program graduates thereby expediting their initial industry training
- Providing an academic foundation for new entrants into the energy workforce that will support their continued career development

Education Network

The Pathways Model includes a network of community and technical colleges that offer training and credentialing programs linked to the energy career pathways. Pathway programs create a match between the pipeline of potential workers and institutions in the education network. The education network institutions offer the stackable credentials, connections to four-year institutions, and flexible delivery systems such as online learning, as well as innovation to accelerate learning and assess prior learning.

Employer Collaboration and Support

The development of any career pathways system will not be successful without the employers who provide the jobs. They not only offer employment, but ongoing training and the opportunities for advancement that turn the Get Into Energy Career Pathways Model into a rewarding, well-paid career for the individual. The model relies on the existing State Energy Workforce Consortia to coordinate with employers within the state and create a tailored process that will support an individual state’s workforce and education policies.

State Energy Workforce Consortia

State Energy Workforce Consortia are a collaboration of the energy industry, education and the workforce system. Consortia focus on the needs and development of a pipeline of workers for the energy industry in each individual state and develop a plan for balancing supply and demand for the workforce based on the energy goals of the state and the needs of the individual companies. Consortia are organized differently

based on the needs of the participants. Various forms include ad hoc groups focusing on sharing best practices and information, structured organizations with officers and subcommittees, and legal entities.

State Energy Workforce Consortia define demand for both current jobs and future energy jobs and help ensure that the necessary training to prepare applicants for employment will be available.

Employment Opportunities

The ultimate goal of the Get Into Energy Pathway model is to provide employment in a rewarding career with opportunity for advancement. Students earning post-secondary credentials will find numerous opportunities in the energy industry, but often don't realize these opportunities exist or have the information they need to navigate the system to find the right fit.

The GIE Career Pathways Model can help enlarge the pool of potential applicants for energy-industry jobs that need to be filled now and in the coming years.

The Center for Energy Workforce Development (CEWD) is a non-profit consortium of electric, natural gas and nuclear utilities and their associations. CEWD was formed to help utilities work together to develop solutions to the coming workforce shortage in the utility industry. It is the first partnership between utilities, their associations, contractors and unions to focus on the need to build a skilled workforce pipeline that will meet future industry needs.

Since 1974, the Council for Adult and Experiential Learning (CAEL), a national non-profit organization, has been expanding access to learning opportunities for adults by providing business, labor, federal, state and local government, communities and higher educational institutions with the tools and strategies they need to create practical, effective lifelong learning solutions.