Building a Sustainable Energy Workforce
The Get Into Energy Career Pathways Model

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Ann Randazzo, Executive Director, CEWD
Ann Randazzo is the Executive Director of the Center for Energy Workforce Development. She assumed this position when the organization was incorporated in March, 2006. The Center is a consortium of national energy associations, electric and natural gas energy companies and is solely focused on addressing the workforce needs of the energy industry.

Prior to becoming Director of CEWD, she spent 12 years providing strategic planning consulting to electric utilities, concentrating on Human Resources, Training and Development, and Organization Effectiveness. Ann is a former employee of the Georgia Power Company, a Southern Company and spent 22 years in a variety of positions in IT, Finance, Customer Operations and the Southern Company College.

Ann lives in Arlington, VA with her husband and has two children in college.
CEWD Mission
Build the alliances, processes, and tools to develop tomorrow’s energy workforce
What does the future Energy Workforce look like?

It depends on who you ask!
Pick a scenario…
There are multiple scenarios

No matter what scenarios you use to envision what the future electric generation, transmission and distribution system will look like, we will need a skilled workforce in every one of them.
So the question becomes...

How do we create an energy workforce that can be sustained in an uncertain future with technologies that haven’t been invented yet?
Workforce Development Drivers

- A need to balance supply and demand for the energy workforce in key job categories
- Skill gaps in potential applicants
- New and emerging technologies that require additional skills
Education Pathways

- Apprenticeship
- Community College Associate Degree
- Certificate Program
- High School Diploma or GED
- College / University Bachelor Degree
- College / University Advanced Degree
Principles for GIE Career Pathways

- Targeted outreach and support through employment
- Pathways system leading to portable articulated credentials and degrees
- Employer involvement in all phases of pipeline development leading to employment
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Defining Required Skills

Identify skills and competencies that are common to all jobs

- Personal Effectiveness
- Academic
- Workplace
Defining Required Skills

Identify skills and competencies that are common to all jobs

Identify skills and competencies that are common to industry jobs

- Personal Effectiveness
- Academic
- Workplace
- Industry wide
- Industry Specific
Defining Required Skills

- Identify skills and competencies that are common to all jobs
- Identify skills and competencies that are common to industries
- Identify skills and competencies that are common to jobs
Energy Competency Model: Generation, Transmission & Distribution

Tier 6-8 – Occupation-Specific
- Linewoker
- Substation Technician
- Engineering Technician
- Relay Technician
- Natural Gas Technology
- Plant Operator
- Electrical Technician
- Mechanical Technician
- Instrument & Control Technician
- Alternate Fuel Technicians

Tier 5 – Industry-Wide Technical
- Non-Nuclear Generation (Coal, Natural Gas, Oil, Hydro, Solar, Wind, Biofuel, Geothermal)
- Nuclear Generation
- Electric Transmission & Distribution
- Gas Transmission & Distribution

Tier 4 – Industry-Wide Technical Competencies
- Safety Awareness
- Industry Principles & Concepts
- Environmental Laws & Regulations
- Quality Control & Continuous Improvement
- Troubleshooting

Tier 3 – Workplace Competencies
- Business Fundamentals
- Teamwork
- Following Directions
- Planning, Organizing & Scheduling
- Problem Solving
- Decision Making
- Ethics
- Employability & Entrepreneurship Skills
- Working with Basic Hand & Power Tools & Technology

Tier 2 – Academic Competencies
- Mathematics
- Locating, Reading & Using Information
- Writing
- Listening
- Speaking
- Engineering & Technology
- Critical & Analytical Thinking
- Science
- Information Technology

Tier 1 – Personal Effectiveness
- Interpersonal Skills
- Integrity
- Professionalism
- Reputation
- Motivation
- Dependability & Reliability
- Self-Development
- Flexibility & Adaptability
- Ability To Learn

Energy Competency Model: Generation, Transmission & Distribution

Center For ENERGY Workforce Development
Energy Competency Tier Model for Skilled Technician Positions in Energy Efficiency, Energy Generation and Energy Transmission and Distribution

Tier 6–8 Job Specific Skills/Credentials
- Associate Degree
- Boot Camp / Apprenticeship for College Credit
- Accelerated Associate Degree

Tier 4–5 Industry Fundamentals
- Energy Industry Fundamentals Certificate

Tier 1–3 Basic Training
- Energy Industry Employability Skills Certificate
- National Career Readiness Certificate

Stackable Credentials

Energy Efficiency and Energy Transmission and Distribution
Get Into Energy Career Pathways

Industry involvement in all phases of workforce development leading to employment
Career Pathways

Targeted Outreach and Support

Youth
- Math
- Employability
- Learning to Learn
- Physical Conditioning

Military
- Employability
- Physical Conditioning

Women
- Math
- Employability
- Learning to Learn
- Physical Conditioning

Low Income Young Adults
- Math
- Employability
- Learning to Learn
- Physical Conditioning

Transitioning Adults
- Math
- Employability
- Learning to Learn
- Physical Conditioning

Work Ready Bootcamps

Tiers 1-5 credentials

Job specific Apprenticeships and Credentials

NCRC
- Energy Employability
- Industry Fundamentals

Lineworker Bootcamp
- Utility Technician Accelerated Associate Degree or Associate Degree

Gas Technician Bootcamp
- Apprenticeship for College Credit

Non-Nuclear Generation Accelerated Associate Degree or Associate Degree

Nuclear Fit for Duty Bootcamp
- Nuclear Uniform Curriculum Degree
Defined Career Pathways Bring Value

**Industry**

- Demand
  - Employers
    - Sustainable workforce
    - Qualified workforce
    - Flexible workforce

**Education**

- Supply
  - Educators
    - Clear industry expectations
    - Industry Support
    - Sustainable programs

**Potential Applicants**

- Skills
  - Students
    - College Credit
    - Tailored support
    - Transportable skills
    - Stackable credentials
For more information, contact:

Ann Randazzo
Executive Director

Center for Energy Workforce Development
ann@cewd.org
703-237-1094

www.cewd.org