



Partnering with Community High Schools to Increase your Applicant Pipeline

Northeast Gas Association

April 20, 2023



Did You Know?



More than 7
million people
work in energy.



As of today,
energy
companies
across the US
have 11,724 job
openings.



Energy jobs pay 34% higher, on average, than the national median hourly wage.



Energy accounts
for 6% of the
Gross Domestic
Product of the
United States.



Who am I?



Who is CEWD?



**Center for
Energy Workforce
Development**

Non-profit consortium of more than 130 energy companies, contractors, associations, unions, educators, and business partners working together to ensure a skilled, diverse workforce pipeline to meet future industry needs.

Founded in 2006 and traditionally focused on electric, gas, and nuclear business, CEWD expanded its umbrella in 2021 to include energy storage, renewables, and electric vehicle infrastructure.

Facilitated the formation of state consortiums to create an avenue for members to enhance strategic collaborations in workforce development and career awareness to create a robust talent pipeline.





**Center for
Energy Workforce
Development**

What do we do?

Strengthen awareness of and promote the merits of 21st century clean energy careers

Build effective partnerships that will support industry companies in diversifying their workforce

Harness best practices in training and upskilling to support companies developing employees in increasingly technical and dynamic energy careers

Support the industry's commitment to fostering modern-day work cultures that attract and retain diverse, talented professionals

1. Career Awareness



Externally

- Strategic Marketing to Attract Candidates
- Share Variety of Pathways
- Promote High Demand & Hidden Positions
- Recruitment Focus

Internally

- Expose Employees to Web of Opportunities
- Explain Long-Term Benefits
- Introduce Resource Groups
- Retention Focus



The Energy Industry Seeks



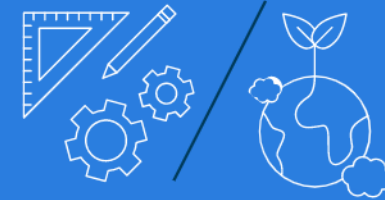
Thinkers and Tinkerers



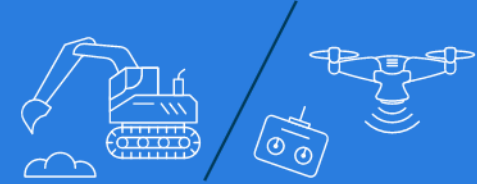
Outdoor Enthusiasts and Office Specialists



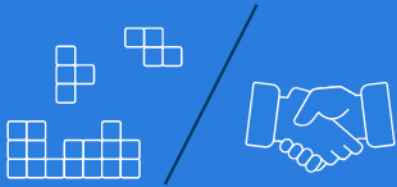
Athletes and Mathletes



Engineers and Environmentalists



Dirt Diggers and Drone Drivers



Problem Solvers and People Persons



Solution Seekers and STEM Specialists



Those who like heights and those who want to work below the earth's surface



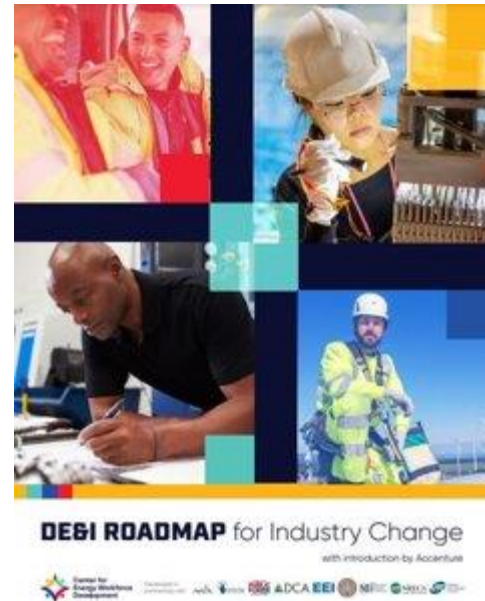
Those with college degrees and those who prefer to learn in life's classroom



2. Promote Diversity, Equity, and Inclusion

Externally

- Partner with National Urban League and other Community Based Organizations
- Local Impact from Collaborative Efforts through Courageous & Transparent Conversations
- Recruitment Focus



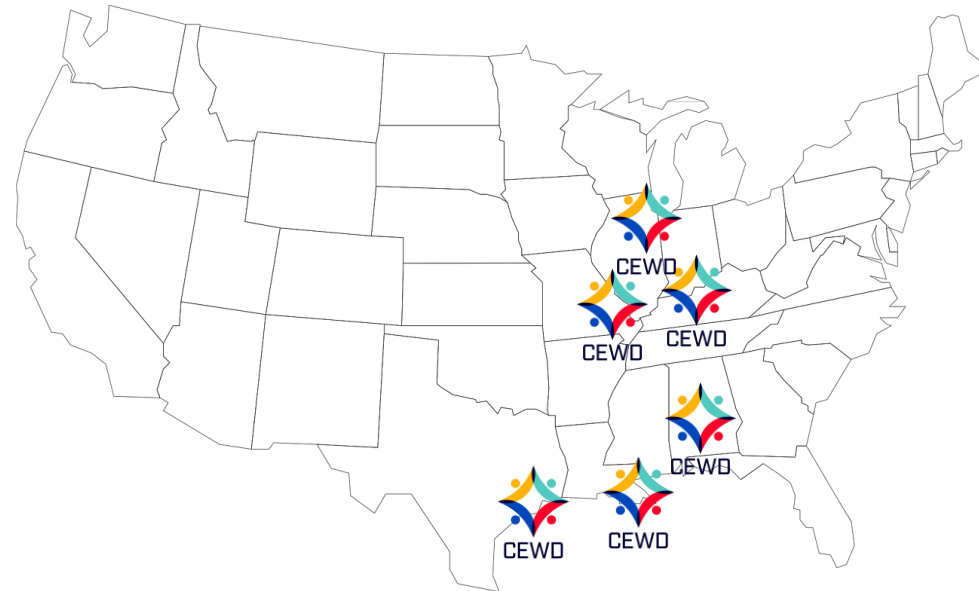
Internally

- Industry Priority
- DE&I Roadmap for Change
 - Why is it important?
 - What actions to close the gap?
 - How can companies implement?
- Journey to Embed in Culture
- Workforce Reflects the Communities We Serve
- Retention Focus



Local Urban League & Energy Company Partnerships

- DOL Grant Locations
 - Chicago, IL
 - Houston, TX
 - Louisville, KY
 - New Orleans, LA
 - St. Louis, MO
- Wells Fargo Grant Location
 - Birmingham, AL
- Expansion Locations
 - Will you be next?



3. Education & Training

Externally

- Start Early: Cradle to Career Talent Pipeline Development
- Provide Energy Curriculum
- Share Resources for Schools, Educators, Students, and Parents
- Promote Career Cluster for Energy
- Recruitment Focus

Internally

- Assess and expand knowledge, skills and abilities
- Upskill and / or reskill incumbent workforce
- Prepare for clean energy careers of today, tomorrow, and beyond
- Retention Focus



Project Purpose

Modernizing the Energy Industry
Fundamentals course

EIF 2.0

Update and modernize the Energy Industry Fundamentals (EIF) course for relaunch in Fall 2023

... while **maintaining** EIF's:

- a) 120-hour format
- b) Modular design
- c) End-of-course assessment
- d) Certificate of completion



Energy Industry Fundamentals (EIF) Overview

Present State:

- Curriculum developed 10+ years ago
- Paperback book format originally, converted to online pdf option in 2020
- 130-hour course (6 modules)
- End of course assessment*
- Certificate-based program*
- Target audience of secondary and post-secondary levels*

*remains the same

Future State:

- Ready for launch in select pilot locations in June 2023
- Online, interactive format
- 120-hour course (4 units x 4 chapters)
- 30-40 hour abbreviated bootcamp
- More industry recognized
- Pathway to stackable credentials
- Articulation agreement template
- Available to public by August 2023



Goals of EIF Modernization



- Process driven by steering committee and subject matter experts
- Defining the diversity within the energy industry from a 30,000-foot view
- Exploring the plethora of career paths available
- Participants will see themselves as guiding the clean energy future



Goals of EIF Modernization



- Student-centric curriculum
- Reaching underrepresented and historically marginalized populations
- Safety woven throughout as a priority of the energy sector
- Teaching 500,000 participants within the next decade
- Creating more connectivity between energy companies and career and technical education
- Industry recognized, stackable credential



Supported by Our Generous Donors

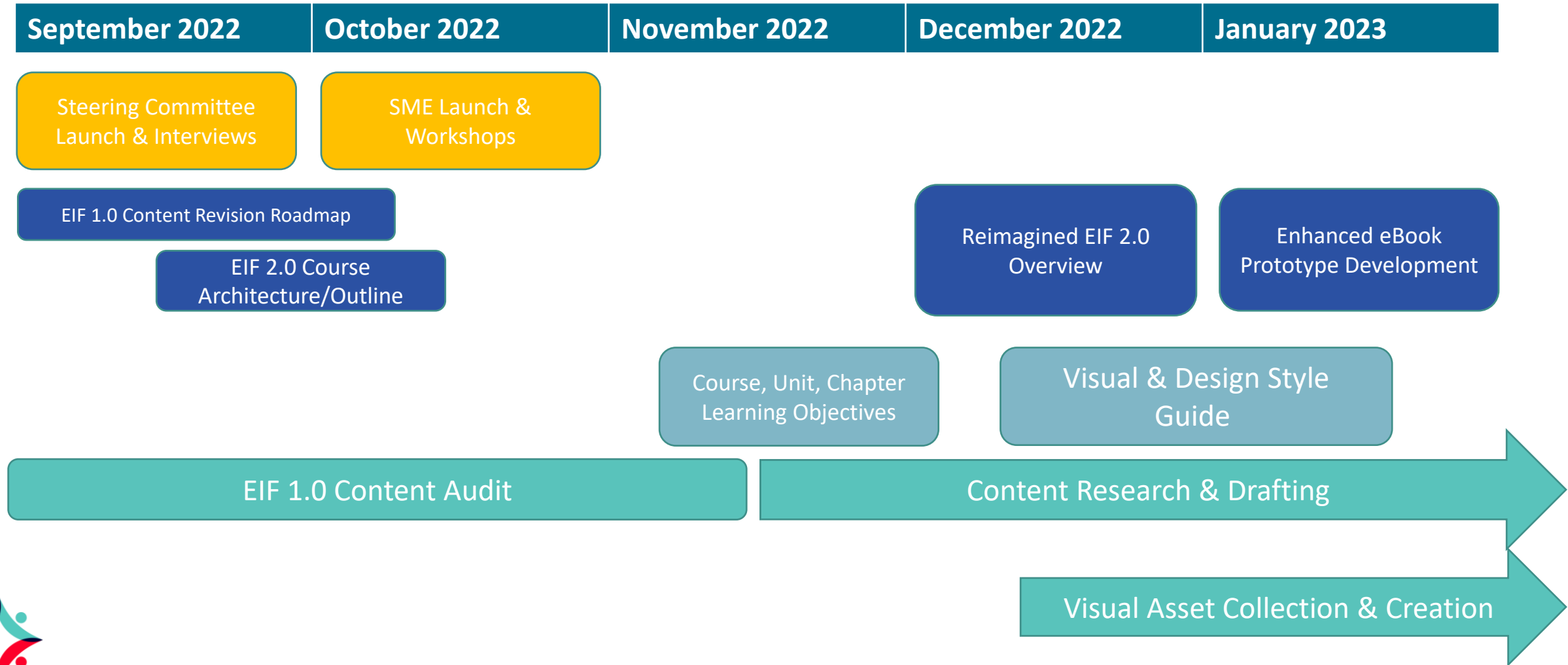


Project Governance

- 26-member steering committee representing CEWD's diverse membership (IOUs, Municipals, and Cooperatives as well as Renewables, Electric, Gas, and Nuclear companies), educators from secondary and post-secondary locations, and partner organizations providing oversight and decision-making support to ensure project progress and alignment with CEWD goals
- 49 subject matter experts (SMEs) providing guidance, input, and feedback on content and pedagogical decisions
- Additional content, pedagogical, graphic design, and learning experience design and education technology plus project management (Julius Education)



Project Milestones So Far



Key Elements of EIF 2.0 Course Architecture

Four, thematic units

Each subdivided into four chapters

Each chapter subdivided into 3 or more sections

Approximately equal in length/instructional time



Every chapter includes multiple activities based on standard formats:

- Cool Careers
- Community Connections
- Game On! Math
- Game On! Science
- Energy Insights Lab
- Data Dive
- Safety First
- Sidebars containing interesting facts, follow-up resources



EIF 2.0 Course Architecture (Rev: March 16)

	Unit A: The Power of Energy	Unit B: The Rules, Schools, and Fuels of Energy	Unit C: Our Interconnected Grid	Unit D: Show Me the Money
Introduction	The energy ecosystem & its transformation	The history & future of energy in the U.S.	Understanding electrical and natural gas transmission, distribution, and resiliency	The business of energy markets
Chapter 1	<ul style="list-style-type: none"> Find Your Career in Energy - Paths for Everyone What is Energy? The Importance of Energy Priority of Safety Energy Efficiency Energy Infrastructure 	<ul style="list-style-type: none"> A concise history of energy in the U.S. The energy continuum: A constant evolution of technology and markets The trajectory of energy 	<ul style="list-style-type: none"> Natural gas: transmission and distribution Natural gas equipment, processes, & reliability 	<ul style="list-style-type: none"> Math for energy: customers & companies Metering, billing, rate structure, and the emergence of smart metering
Chapter 2	<ul style="list-style-type: none"> Introducing diverse fuel sources: natural gas, coal, nuclear, wind, hydro, solar, biomass, geothermal 	<ul style="list-style-type: none"> What is an "energy company"? How do they operate? 	<ul style="list-style-type: none"> Power: transmission and distribution Power equipment, processes, & reliability 	<ul style="list-style-type: none"> Distributed generation / storage Natural Gas Markets Building electrification Electric vehicles
Chapter 3	<ul style="list-style-type: none"> Advantages and limitations of each electrical generation source 	<ul style="list-style-type: none"> The energy industry regulatory landscape Energy deregulation Energy policymaking 	<ul style="list-style-type: none"> Risk management for the energy industry Physical and cybersecurity and why it is crucial 	<ul style="list-style-type: none"> Workplace culture in the energy industry Getting into and advancing in the energy industry Emerging skills & career trends
Chapter 4	<ul style="list-style-type: none"> Generation trends: new generation construction & retiring fuel sources Focus on storage & hydrogen Other emerging technologies 	<ul style="list-style-type: none"> The future(s) of energy companies A holistic perspective on energy Energy justice Decarbonization goals 	<ul style="list-style-type: none"> Grid modernization & smart grids Microgrids Reliability & resiliency: load balancing, blackouts, & crises 	<ul style="list-style-type: none"> The business of energy



Course-Level Learning Objectives

- 1) **Recognize** and **describe** career pathways in the energy industry and **evaluate** career requirements; **imagine** which opportunities could align with your own goals and dreams.
- 2) **Describe** and **diagram** energy generation from diverse sources, delivery, and consumption at a systems level.
- 3) **Identify** factors and innovations that are transforming the energy industry and related professions in the U.S. and globally.
- 4) **Summarize** trends in energy generation, transmission, distribution and consumption, and **describe** their impact on energy industry career opportunities.
- 5) **Explain** the importance of a culture of safety to individuals, families, communities, and companies as prioritized throughout the energy industry.



Unit A: The Power of Energy

0% COMPLETE

- Unit A Introduction
- CHAPTER ONE: AN INTRODUCTION TO THE ENERGY ECOSYSTEM
- Chapter 1, Section 1: Find Your Career in Energy
- Chapter 1, Section 2: What is Energy
- Chapter 1, Section 3: The Importance of Energy
- Chapter 1, Section 4: Energy Efficiency First
- Chapter 1, Section 5: Energy Ecosystem Infrastructure Overview
- Community Connections



The energy industry offers diverse, well-paying career opportunities in every region of the U.S. Plus, you can choose a job where you can do both. Image: iStock

Community Connections

LESSON 7 OF 8

Modern Careers in a Modernizing Energy Industry

Throughout its modern history, increasing demand for energy, technological resource constraints, and environmental impacts have driven the energy industry to adapt and transform. As the energy industry continues to evolve and...

Energy Careers in Your Community

Make a list of energy careers available in your community

- Research and list jobs in your community related to energy generation or distribution. Search for open job postings on your electric and gas utility's websites, and search national or state utility umbrella organizations for local jobs.
- [Center for Energy Workforce Development](#)
 - [National Rural Electric Cooperative Association](#)
 - [American Public Power Association](#)
- You can also search websites like Indeed or LinkedIn, but the results will be less specific and require more filtering.

Bonus Activities

Pick the job that interests you the most. What are the educational requirements and other qualifications? Experience requirements? Pay range? Other benefits?

Unit A: The Power of Energy

0% COMPLETE

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- Chapter 1, Section 2: What is Energy
- Chapter 1, Section 3: The Importance of Energy
- Chapter 1, Section 4: Energy Efficiency First
- Chapter 1, Section 5: Energy Ecosystem Infrastructure

Electrical Energy

Energy and utility companies provide customers with instant access to reliable energy service 24 hours a day, 365 days a year.

Electrical Energy

The creation and delivery of electrical energy for customers occurs through three main steps:

START >

Electricity Generation

Electricity can be generated in many different ways, but the majority of electrical energy used today is produced through magnetism (generators). Electrical energy is created by a generator

A Sneak Preview of the EIF 2.0



Project Roadmap

February 2023

March 2023

April 2023

May 2023

June 2023

Steering Committee Guidance

Subject Matter Expert Input & Review

Student Testing

Enhancements

Unit A Drafting & Review

Unit B Drafting & Review

Unit C Drafting & Review

Unit D Drafting & Review

Final Revisions

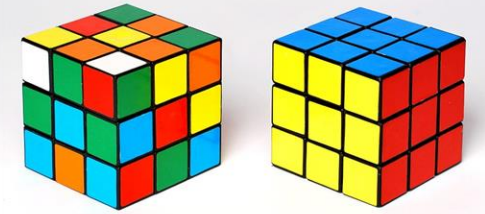
Visual Asset Collection & Creation



Database Updates

- Registration for:
 - Schools
 - Energy Education Program
 - Instructors
 - Students
 - Community Learners
- Energy Sponsor:
 - Program recognized by energy company as talent pipeline
 - Inventory of prospects

- Details to Capture:
 - Name
 - Email
 - Phone Number
 - Location (city / state)
- EIF 2.0 Course & Assessment:
 - Online
 - Low Cost
 - Certificate of Completion



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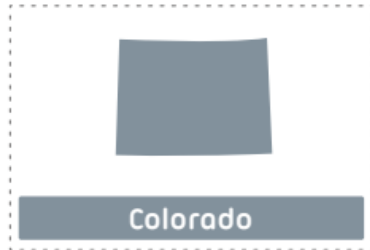


Or 17?

- [Agriculture, Food & Natural Resources](#)
- [Architecture & Construction](#)
- [Arts, A/V Technology & Communications](#)
- [Business Management & Administration](#)
- [Education & Training](#)
- **ENERGY**
- [Finance](#)
- [Government & Public Administration](#)
- [Health Science](#)
- [Hospitality & Tourism](#)
- [Human Services](#)
- [Information Technology](#)
- [Law, Public Safety, Corrections & Security](#)
- [Manufacturing](#)
- [Marketing](#)
- [Science, Technology, Engineering & Mathematics](#)
- [Transportation, Distribution & Logistics](#)



States with the 17th Career Cluster for Energy:



Energy Pathways: Arizona and Wisconsin

Under consideration: Missouri and Nebraska



4. Supporting Workforce Development Professionals

Externally

- Workforce Development
 - Recruitment Focus

Internally

- Workforce Planning
 - Retention Focus



**Center for
Energy Workforce
Development**



Next Steps for You



- Connect with CEWD and your local energy consortium
- Support expansion of National Career Clusters to add Energy
- Contact me if interested in learning more about EIF 2.0 progress and how to offer the curriculum to community partners
- Use additional Get Into Energy free resources found online
- Visit CEWD's webpage to gain access to resources for members only (educators are sponsored by energy company)
- Join the Community Exchange Group for Energy Educators through EEI



Questions?





Thank you!



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CEWD
Center for Energy
Workforce Development

