
3rd Annual MassCEC Workforce Development Grantee Convening

NOVEMBER 21, 2024

DEVENS, MA



Agenda Review and Program Updates

Agenda Review

Networking and Breakfast

Welcome and Agenda Overview

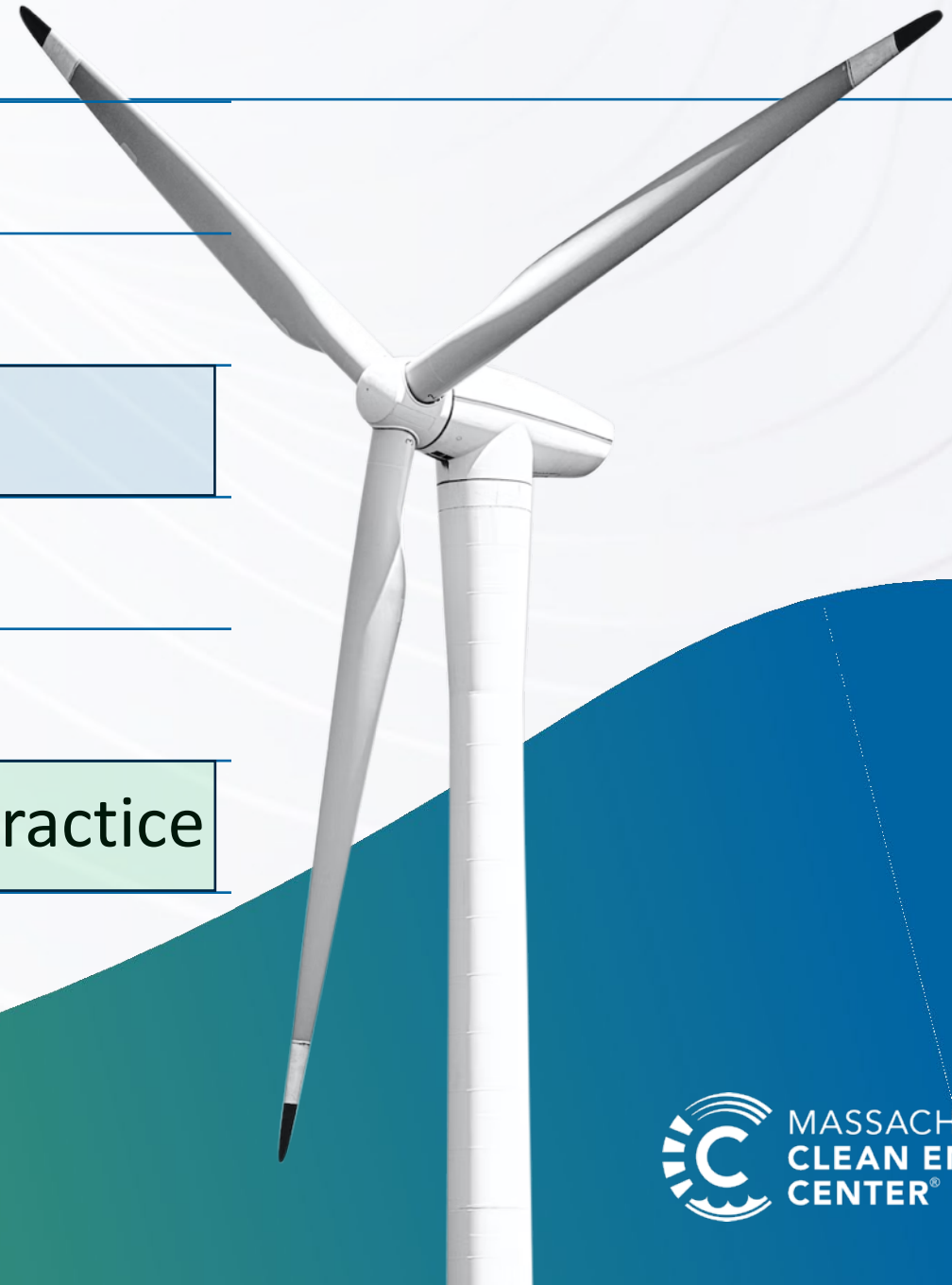
Morning Concurrent Sessions

Lunch and Industry Panel

Funding and Workforce Update

Critical Discussions for Advancing Practice

Wrap up and Next Steps



A Closer Look at the Morning Concurrent Sessions

Track 1- Training and Career Awareness Grantees

Developing a Clean Energy & Climatetech Career Readiness Framework (Session A) 10:40-11:25
Collaborate with colleagues to develop a statewide career readiness framework to advance durable skills for a climate-ready workforce.

Promoting Strong Job Retention (Session C) 11:25-12:30
Design more effective job retention services by exploring a step-by-step approach to leveraging promising practices for stronger outcomes.

OR

Powering the Future (Session D) 11:25-12:30
Preview MassCEC's newest resource and discuss how to use career awareness videos and lessons to engage and advance your participants.

Track 2- MWBE Support Grantees

Sector-Based Strategies (Session B) 10:40-11:45
Share best practices in sector-based breakouts and collaborate to address specific challenges to advancing climate-critical businesses.

Improving Outcomes with a Hub and Spoke Model (Session E) 11:45-12:30
MassCEC's MWBE Support program is transitioning to a new model. Share goals and input into this effort to expand support to climate-critical businesses.

Developing a Clean Energy and Climatetech Career Readiness Framework

November 21, 2024
MassCEC 3rd Annual Fall Grantee Convening



Agenda

Opening Discussion: Transitioning and Expanding Participants' Durable Skills

Moving toward a Common Framework for Career Readiness- Why We Need it and What's included

Small Working Groups

Working Group One Stay- Rest Stray

Wrap Up and Next Steps

**Opening Discussion:
Transitioning and
Expanding Participants'
Durable Skills**

Opening Discussion

- **Find someone who you don't know and...**
- Introduce yourselves and share a brief description of your program
- Identify at least one **durable skill** that your program helps participants advance and share:
 - Some examples of how you have seen growth in this skill and why it is valuable to participants' careers

**We have
many, many
names for
this concept**



Durable Skills
Work/ Career Readiness Skills
Soft Skills
Non-Cognitive Skills
Employability Skills
Essential Skills
Power Skills

**Moving toward a
Common Framework for
Career Readiness:
Why We Need it and
What's included**

Three Core Domains of Increased Career Preparation

- ▶ **Career Navigation**

(Awareness, Exploration, Planning)

- ▶ **Career Readiness Assets**

(Resume, Portfolio, Cover Letter, Certifications, References)

- ▶ **Durable Skills**

(Also called Soft, Non-Cognitive, Power, Employability, Career Readiness, and Work Readiness Skills)

Best Practices and Key Considerations in Structuring Effective Career Readiness

#1 -Prioritize learning and growth over logistics when you develop an implementation plan and schedule

#2- Make sure your instructional model and each module engages the content in terms of **knowledge, skills, behavior, and attitudes.**

#3- Contextualize durable skill development to match the occupation, employers, and work settings.

#4- Integrate a mix of assessment throughout the process and set aside time in advance to respond to information.

#5- Help staff be accountable for participant outcomes by including them in the process and focusing the conversation on professional growth.


DesignNews

Automation Automotive Electronics Design Materials 3DP Industry CEC DN Direct

Is Your Engineering Career Suffering from a Lack of Soft Skills?

Companies recognize the importance of hiring engineers who have both hard and soft skills.

David McCool, mechanical engineer and founder of Muzzy Lane
October 23, 2024 4 Min Read




BBC Watch Live Register

Home News Sport Business Innovation Culture Arts Travel Earth Video Live

'Soft skills': The intangible qualities companies crave

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SIRM

Membership Credentials Topics & Tools Events & Education Business Solutions

Cultivating Critical Soft Skills

Problem solving, time management and adapting to change are the most important soft skills, according to HR professionals and hiring managers.

March 12, 2024 | Kathy Gur...

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Inc. NEWSLETTERS

TECHNOLOGY

Investing in Durable Skills—the Smart Bet in the Age of AI

How automation and an unpredictable business environment are driving a new emphasis on human-centric skills.

McKinsey & Company Public Sector
How We Help Clients Our Insights Our People Contact Us



Defining the skills citizens will need in the future world of work

Moving Toward A Common Career Readiness Framework (CRF)

Grantee and Initial Stakeholder input to develop a common framework for Climatetech CRF

Expanded Career Awareness Resources

Pilot Release of Clean Energy Data Hub

Additional Career Awareness tools and expanded data hub resources

MassCEC Clean Energy and Climatetech CRF refined and integrated with grant assessment and outcome practices

FY25

FY26

FY27

Launch of new workforce development platform with expanded career readiness tools

MassCEC Clean Energy and Climatetech CRF embedded into RFPs and technical assistance

Julius is building a data hub to analyze MassCEC priority occupations, including the role of durable skills

Summary

Top Skills, Certifications, Ex...

Job Postings

Salary Map

Benefits Map

MassCEC Dashboard

Top Skills, Certifications and Experience

Select Job Title ▾

Top Skill Category Ranking

Skill Category ▾	Rank
Time Management	3
Technology Skills	5
Technical Skills	1
Teamwork	3
Site Management	3
Safety and Risk Assessment	3
Program Development	3
Professional	3

Top Skills ▾

Work independently, maintaining self-motivation and accountability
Work effectively with diverse cross-functional teams
Work effectively as part of a team in a fast-paced environment
Work diligently and with a strong work ethic
Uphold high standards of work quality and safety
Understand financial principles and be proficient in PC desktop applications
Understand and adhere to all work safety policies, procedures, and regulations
Troubleshoot issues with commercial refrigeration equipment

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Top Certifications ▾

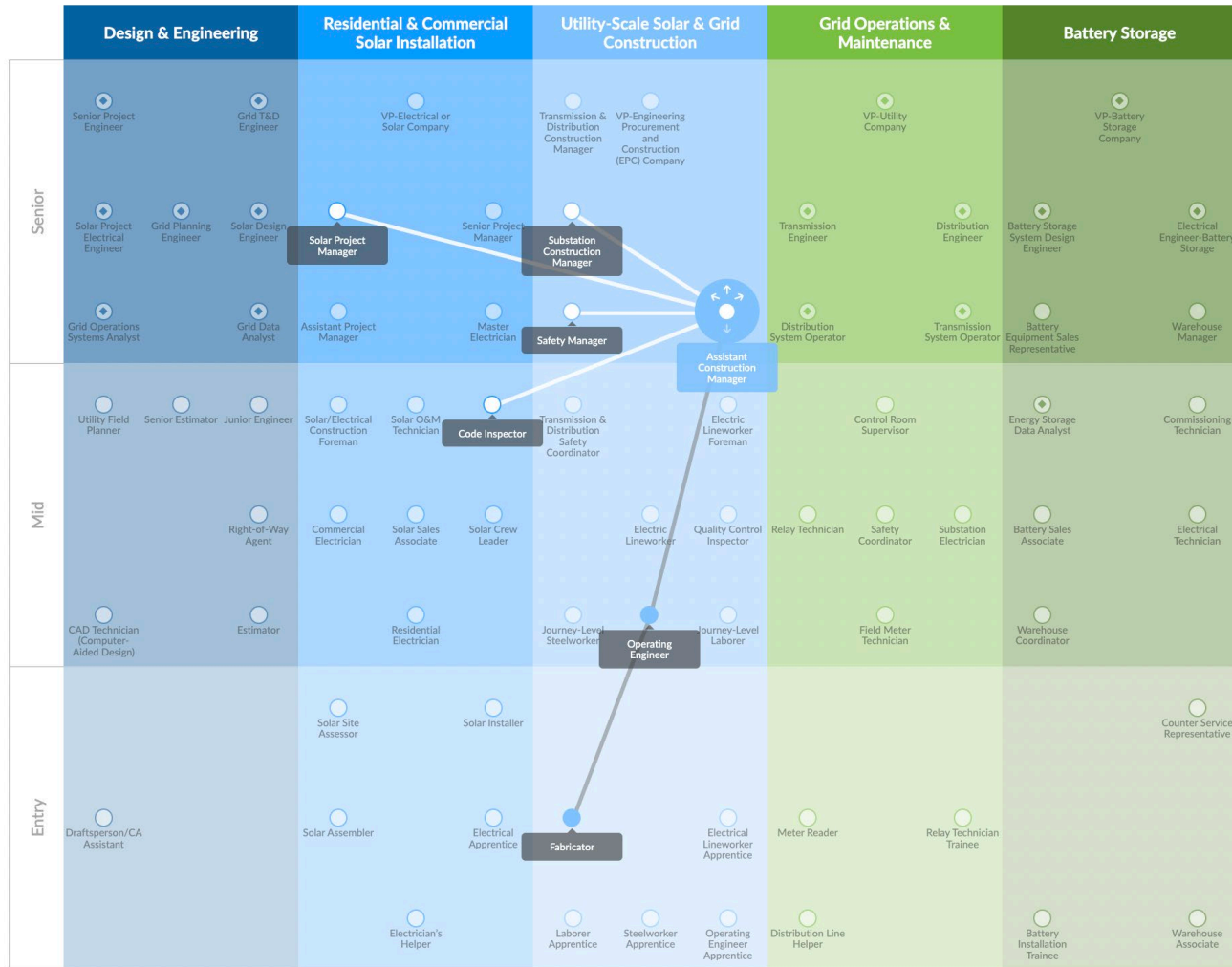
OSHA 40 training certification
OSHA 30 training certification
OSHA 10 training certification
NMEA certificate
NICET Level I, II, III, or IV Certification
NEPA 70E

Top Experience ▾

Understanding the components of insulation systems
Understanding financial principles
Understanding commercial HVAC systems operation
Understanding and applying local building codes
Tuning and debugging complex RF systems



Example: MA Net Zero Grid Career Map (in development)



Case study:

- A potential career path for a Fabricator shows both the transferability and evolution of durable skills over a career
- We trace a career path up to a Senior Assistant Construction Manager occupation and highlight durable skills along the pathway

Fabricator: entry level in utility-scale solar and grid construction

Utility-Scale Solar & Grid Construction

Fabricator

As a Fabricator, you shape, weld, and assemble metal products, often working from blueprints and using a variety of tools and machinery. Career growth opportunities may include roles such as Fabrication Supervisor or Manager. This role suits hands-on individuals who enjoy crafting and constructing with precision.

REQUIRED EDUCATION & TRAINING
High School Diploma or Equivalent

WORK EXPERIENCE
No experience required

PAY
\$43,581 - \$61,094 / year

SKILLS & REQUIREMENTS

- Fabrication Skills: Proficiency in fabricating metal or other materials according to specifications and blueprints.
- Welding: Skill in welding techniques such as MIG, TIG, or stick welding for joining metal components.
- Metalworking Tools: Knowledge of metalworking tools and equipment such as saws, grinders, and presses.
- Measurement and Layout: Ability to accurately measure and layout components for fabrication.
- Safety Awareness: Adherence to safety protocols and regulations when working with fabrication equipment and materials.
- Problem-Solving: Aptitude for troubleshooting fabrication issues and finding solutions to ensure quality and accuracy.
- Teamwork: Collaboration with engineers, designers, and other fabricators to complete projects efficiently and effectively.

Utility Field Planner

Mid

CAD Technician (Computer-Aided Design)

Entry

Draftsperson/CA Assistant

Commissioning Technician

Electrical Technician

Service

4-year Co

**Relevant Durable Skills:
Problem Solving
Teamwork/
Collaboration**

Operating Engineer: durable skills persist and grow with progression

Utility-Scale Solar & Grid Construction

Operating Engineer

As an Operating Engineer, you operate and maintain heavy equipment used in construction, such as cranes, bulldozers, and loaders. You also play a crucial role in ensuring the safety and efficiency of these machines. Advancement can lead to roles such as Senior Operating Engineer or Equipment Manager. Ideal for those who are mechanically inclined and enjoy operating heavy machinery.

REQUIRED EDUCATION & TRAINING
High School Diploma or Equivalent

WORK EXPERIENCE
3-5 years

PAY
\$86,296 - \$94,043 / year

SKILLS & REQUIREMENTS

- Equipment Operation: Proficiency in operating heavy equipment such as bulldozers, excavators, cranes, and loaders.
- Technical Skills: Understanding of equipment maintenance, troubleshooting, and repair procedures.
- Safety Compliance: Adherence to safety protocols and regulations when operating heavy equipment.
- Blueprint Reading: Ability to interpret construction drawings and specifications related to equipment operation.
- Teamwork: Capacity to work collaboratively with other operating engineers, laborers, and supervisors on job sites.
- Problem-Solving: Aptitude for troubleshooting equipment issues and implementing solutions to keep operations running smoothly.
- Adaptability: Flexibility to work in different environments and conditions, adjusting equipment operations as needed.

Relevant Durable Skills:
Problem Solving
Teamwork
Adaptability/
Flexibility

Senior
Solar Project Electrical Engineer
Grid Operations Systems Analyst
Utility Field Planner
Mid
CAD Technician (Computer-Aided Design)
Electrical Engineer-Battery Storage
Warehouse Manager
Commissioning Technician

Julius
Draftsperson/CA

Assistant Construction Manager: durable are now most in demand

Utility-Scale Solar & Grid Construction

Assistant Construction Manager

As an Assistant Construction Manager, you will coordinate and supervise a wide range of construction projects from start to finish. Your organizational skills will ensure that projects are completed on time, within budget, and to the highest quality standards. You will work closely with architects, engineers, and other construction specialists. Career advancement may lead to roles such as Construction Manager or Project Executive. This role is well-suited for detail-oriented, communicative leaders.

REQUIRED EDUCATION & TRAINING
High School Diploma or Equivalent

WORK EXPERIENCE
3-5 years

PAY
\$86,263 - \$100,943 / year

SKILLS & REQUIREMENTS

- Project Management: Ability to assist in managing construction projects, including scheduling, budgeting, and resource allocation.
- Communication: Effective verbal and written communication skills to liaise with project teams, subcontractors, and stakeholders.
- Problem-Solving: Aptitude for identifying and addressing issues that arise during construction activities.
- Technical Knowledge: Understanding of construction methods, materials, and building codes.
- Team Leadership: Capacity to support and coordinate the efforts of construction teams and subcontractors.
- Attention to Detail: Thoroughness in reviewing project plans, specifications, and documents.
- Time Management: Efficiently manage time and tasks to meet project deadlines and milestones.

Relevant Durable Skills:
Communication,
Problem Solving,
Team Leadership,
Attention to Detail,
Time Management

Offshore Wind: Skill Taxonomy built with NREL / DOE WETO

- Julius identified 250 job titles that captured critical roles across the entire wind energy supply. We matched 28,000 job postings from the last 24 months as the source material for the skills taxonomy.
- **Public access:** https://openei.org/wiki/Offshore_Wind_Energy_Occupational_Maps

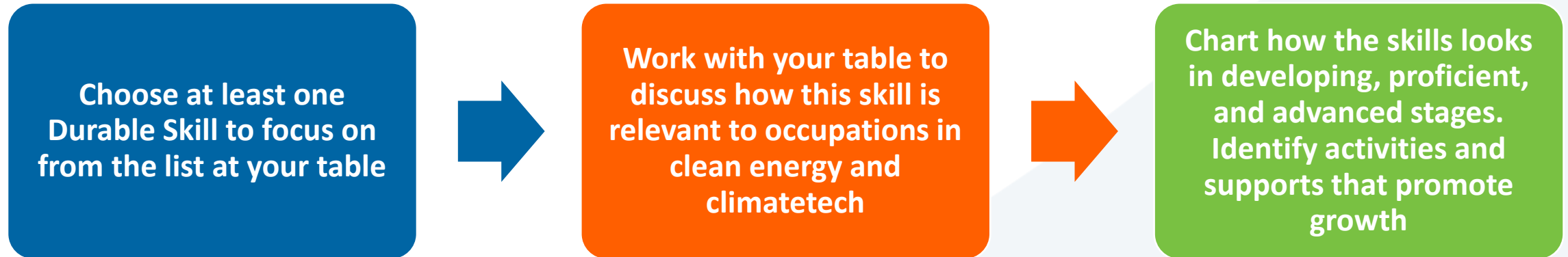
Top 20 skills and durable skills (bolded) by occurrence in job posts

- | | | |
|--------------------------------------|--|--------------------------------------|
| 1. Technical Skills and Proficiency | 8. Analytical Skills | 17. Maintenance and Repair |
| 2. Communication Skills | 9. Compliance | 18. Leadership and Management |
| 3. Teamwork and Collaboration | 10. Documentation and Record-keeping | 19. Quality Management |
| 4. Problem-solving | 11. Time Management | 20. Risk Management and Compliance |
| 5. Computer and Software Proficiency | 12. Organizational Skills | |
| 6. Physical Abilities | 13. Attention to Detail | |
| 7. Safety Management and Awareness | 14. Project and Task Management | |
| | 15. Adaptability | |
| | 16. Coordination | |

Small Working Groups

Mapping at least one Durable Skill

- ▶ We will help you join groups with grantees who are also working on career awareness, training for new entrants, or incumbent/ upskilling/ advancement strategies



- **Identify someone who is willing to stay and represent your work**

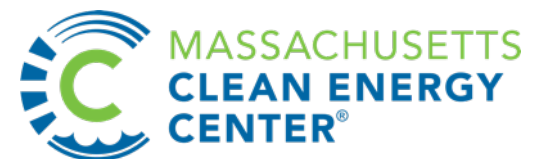
Working Group
(One stay, the rest stray)

Wrap up and Next Steps



Sector Based Insights and Challenges

Breakout Room 1: Devens Club A



Agenda

NOVEMBER EQUITY WORKFORCE GRANTEE COMMUNITY OF PRACTICE

1. Welcome and Introductions
2. Opening Conversation
3. Session: Sector Based Insights and Challenges
4. Sector Specific Breakouts
5. Interactive Full Group Debrief & Discussion



- **Understand sector-specific challenges**
- **Identify actionable strategies to overcome barriers**
- **Fosters connections and collaborative opportunities across sectors**



BLACK AND WOMAN-OWNED STRATEGIC WORKFORCE PLANNING FIRM



150+ clients supported



MBE
WOSB
WBENC
Certified

leadership team
60% racially diverse
50% women



over a decade of experience



15+ locations

- 2022 EASTERN MINORITY REGIONAL SUPPLIER OF THE YEAR CLASS III (EMSDC)
- 2020 NATIONAL MINORITY SUPPLIER OF THE YEAR (NMSDC)
- 2021 EASTERN MINORITY REGIONAL SUPPLIER OF THE YEAR (EMSDC)
- 2019 EASTERN MINORITY REGIONAL SUPPLIER OF THE YEAR (EMSDC)
- 2021, 2020, 2019 MINORITY BUSINESS ENTERPRISE ADVOCATE OF THE YEAR (EMSDC)



Opening Discussion

- **Find someone who you don't know and...**
- Introduce yourselves and share a brief description of your program
- Share some of the specific types of businesses that you support and at least one challenge that many of them encounter as they attempt to grow their business



Examples of Challenges: High-Performance Buildings

- **Securing Contracts (Procurement, Supply Chain, Market Access)**
 - Preference for known vendors/entrenched competitors
 - Networking (e.g. unions, municipalities, contractors)
 - Finding public bid methods/programs (e.g. BHA's Minority and Women's Participation Provision)
 - Marketing (Access to research/tailored intelligence)
 - Development of Business Plans/Proposals
- **Navigating Regulations**
 - Obtaining Required Licenses/Permitting
 - Obtaining required Certifications for supplier opportunities
 - Effectiveness of Certification vs Costs
 - Enforcement of supplier diversity compliance
- **Access to Capital and Financing**
 - Limited financing options (e.g. bonding, lack of collateral, creditworthiness/bias)
 - Limited resources for financial planning (e.g. loan preparation)



Examples of Challenges: Infrastructure/Renewables

- **Dispersal of Opportunities/Residential versus Commercial**
 - Seasonality of project opportunities
 - Different challenges of identifying project opportunities in residential versus commercial
- **Navigating Procurement Pipelines**
 - Understanding bid schedule and entry points into multi-tier bid pipelines
 - Obtaining required organization certifications or vendor status
 - Adhering to the project labor agreements, labor requirements, and staff licensing requirements
- **Scale**
 - Having sufficient organizational capacity to bid successfully
 - Tapping sufficient labor to complete the work
- **Access to Capital**
 - Floating cash for work performed prior to first contractual disbursement
 - Needed tools and equipment to do new work



Examples of Challenges: Back Office Operations

- **Pivoting**
 - Understanding how to pivot into the clean energy sector
- **Limited access to resources:**
 - Knowledge of advanced software and technology such as: pay roll support, HR services, talent acquisitions and retention
 - Comfort using digital tools
 - Difficulty accessing capital for scaling
- **Legal challenges:**
 - Some grantees are stalled in their attainment of licenses due to legal issues
 - Back taxes
 - Citizenship
- **Compliance:**
 - Reporting and documentation standards
 - Meeting expectations for competitive funding applications
 - Knowledge and experience with complex applications and procurement systems
- **Time Management:**
 - Finding time to invest in intensive MWBE programs



Breakout Structure

- Group discussions led by grantor facilitators
- Guided by prompt questions tailored for each sector
- Capture insights and proposed solutions for report-back



Breakout Questions

Construction/ Building Retrofit

- What are the primary barriers MWBEs face in navigating the subcontracting system?
- How can the MWBEs you support better access bonding and licensing opportunities?
- What strategies can address labor shortages or challenges engaging with unions?
- How can collaborations help improve MWBE participation in large-scale projects?

Infrastructure/ Renewable Energy

- What are the biggest barriers MWBEs face when competing for infrastructure or renewable energy contracts?
- How can the MWBEs you support build stronger relationships with developers, GCs, or suppliers to secure more opportunities?
- What role does access to capital play in ability to bid on or deliver projects, and what solutions have worked?
- How can state and local policies better support MWBE participation these energy projects?

Back Office Operations

- What specific resources or technologies are most challenging for the MWBEs you serve to access?
- How can MWBEs improve their compliance with clean energy contracting requirements?
- What financing strategies or programs have been most effective for scaling the MWBEs you support?
- How can state and local programs better support MWBE back-office operations?

- What are key gaps in workforce development programs for MWBEs in clean energy?
- How can the MWBEs you support better leverage partnerships to enhance training and workforce development?



Closing/Report-Back for All Breakouts

- What are the top three challenges your group identified?
- What specific solutions or strategies emerged from your discussion?
- What next steps or resources would help you support MWBEs in addressing these barriers?



Let's collaboratively turn challenges into opportunities to propel the MWBEs you support in their growth and impact in clean energy.

Eben Piorkowski
Business Operations, The JPI Group
eben@thejpigroup.com





Promoting Strong Job Retention

Main Ballroom



Session Agenda

Opening Discussion-How do you think about retention?

Best Practices for Retention Strategies

Small Group Discussions: Advancing Retention Strategies

Wrap-up and Next Steps

Opening Discussion-

How do you think about
Retention for your
program?

Opening Discussion

- **Find two people who you don't know and...**
- Introduce yourselves
- Describe your program
- Share what comes to mind when you think about retention services

Retention services are supportive interventions designed to help individuals sustain long-term employment by addressing barriers, providing ongoing training, mentorship, and resources to ensure career stability and growth.



Best Practices for Retention Strategies

Successful Job Retention services will....

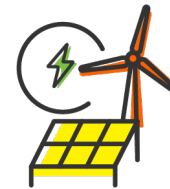
Result in graduates of your program retaining employment in the occupation for which they trained and with an employer that offers living wages, benefits and advancement opportunities. Job retention is a primary outcome of your program and an important measure of the program's impact.



BUILD GRADUATES' SKILLS TO NAVIGATE THE WORKPLACE, INCLUDING ADVOCATING FOR THEMSELVES ON THE JOB



PROVIDE ONGOING SUPPORTS THAT ARE NECESSARY FOR THE GRADUATE TO THRIVE ON THE JOB AND MANAGE ANY BENEFITS CLIFF EFFECTS



PROVIDE EMPLOYERS WITH A RESOURCE TO ADDRESS RETENTION ISSUES AND ADVISE ON ELEMENTS OF JOB QUALITY

Understanding the Needs

- What are the likely retention services that your participants will need? How will you continue to capture this information as you place participants into jobs?
- What are the retention services employers will need? How will you continue to refine these services over time?
- What are the public benefits that graduates may be receiving and how are these affected by earnings? How will you counsel and educate graduates and employers about these “cliff effects”?

Establishing the Strategy and Delivery Model

- What is your retention services model? What staffing will you need to carry out this activity? What buy-in do you need from graduates and employers?
- How will employers partner work with you during the retention period? How will you secure permission from your graduates to discuss their retention and advancement with their employer?
- Will you provide these services in-house or through a partner? What is your data management plan? What is your budget for these services?

Examples of Job Retention Services

Structured alumni get-togethers to build graduates' networks and support one another in job retention

Troubleshooting around specific issues that arise for a graduate or employer partner or opportunities that the employer sponsors such as training

Counseling a graduate as they consider the impact of additional hours or promotional opportunities on any public benefits they may be receiving

Job placement services if the graduate loses their job with the initial employer

Job quality coaching for employers based on the experience and feedback of graduates who are or have been employed there



Questions



Small Group Discussions: Advancing Retention Strategies

Small Group Table Discussion

Early-Stage
Implementation

Program
Planning

Longstanding
Program

What is your job retention goal?

How will you work with employers and program completers to provide these services?

What barriers are you most concerned about addressing?

What are the key aspects of your job retention model?

What have been your biggest challenges and what have you tried?

What have you learned so far in your program and have you changed anything in your model because of that learning?

Wrap-up and Next Steps

Powering the Future: Advancing Career Awareness for Climate-Critical Occupations

November 21, 2024
MassCEC 3rd Annual Fall Grantee Convening
Breakout Room 2—Devens Club B



Session Agenda

Opening Discussion-Your program's current approach

Career Awareness for Clean Energy and Climate-Critical Careers

Resource Update: MassCEC's forthcoming curriculum:
Massachusetts Climate Careers: Powering the Future

Discussion and Implementation Planning

Wrap-up and Next Steps

Opening Discussion-

Your program's current approach

Opening Discussion-Your program's current approach

- ▶ Partner with two other people from other programs and have a small group discussion sharing some of the details from your current or planned programs

Baseline Awareness of Program Participants

- What is the range of awareness that participants demonstrate coming into programs?
- What are the obstacles that you encounter?
- How does broader self awareness impact participants' career awareness?

Tools, Experiences, Supports your program uses for advancing career awareness

- What is one tool, experience, or support strategy that you have used successfully to drive additional awareness?
- What a new tool, experience, or support strategy that you want to add?

Target Increased Awareness of Program Participants

- What are some of the ways that you have seen participants advance their awareness?
- How do you measure progress?
- What aspects are harder to measure?

Career Awareness for Clean Energy and Climate-Critical Careers



2023 Clean Energy Industry Report



The **108,450** **DIRECT CLEAN ENERGY JOBS**

in Massachusetts supported an additional:



38,466 **INDIRECT JOBS**

(those outside of the clean energy sector that provide critical supply chain goods and services)



65,859 **INDUCED JOBS**

(those that result from increased spending in the economy)

Based on this analysis, the **MASSACHUSETTS CLEAN ENERGY INDUSTRY** is responsible for a total economic contribution of:



212,775

combined direct, indirect, and induced jobs



\$33.1 BILLION

in MA GSP



\$2.6 BILLION

in state and local taxes



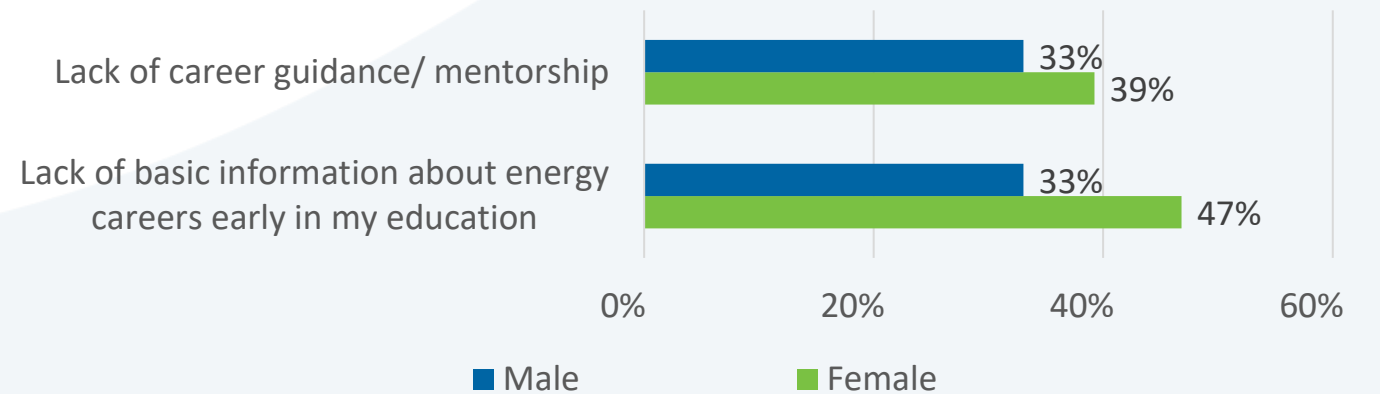
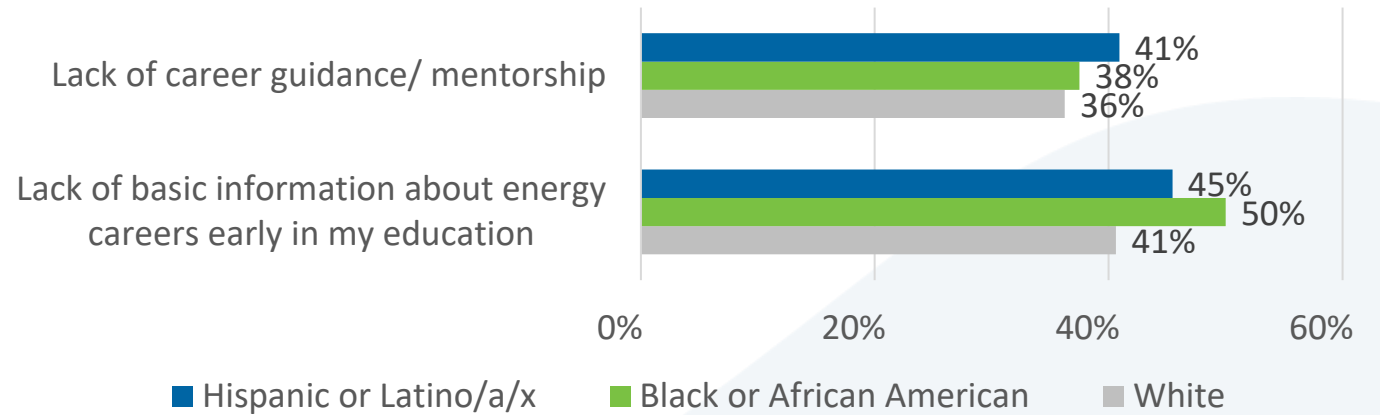
\$4.4 BILLION

in federal taxes

Importance of Awareness of Clean Energy Careers

LACK OF CLEAN ENERGY CAREER AWARENESS IS A BARRIER TO ENTRY

- Overall, 39% of clean energy workers surveyed cited a lack of career awareness as a barrier to entry into clean energy. 35% cited a lack of career guidance or mentorship.
- A higher percentage of non-white and female workers cited awareness and mentorship as barriers to entry

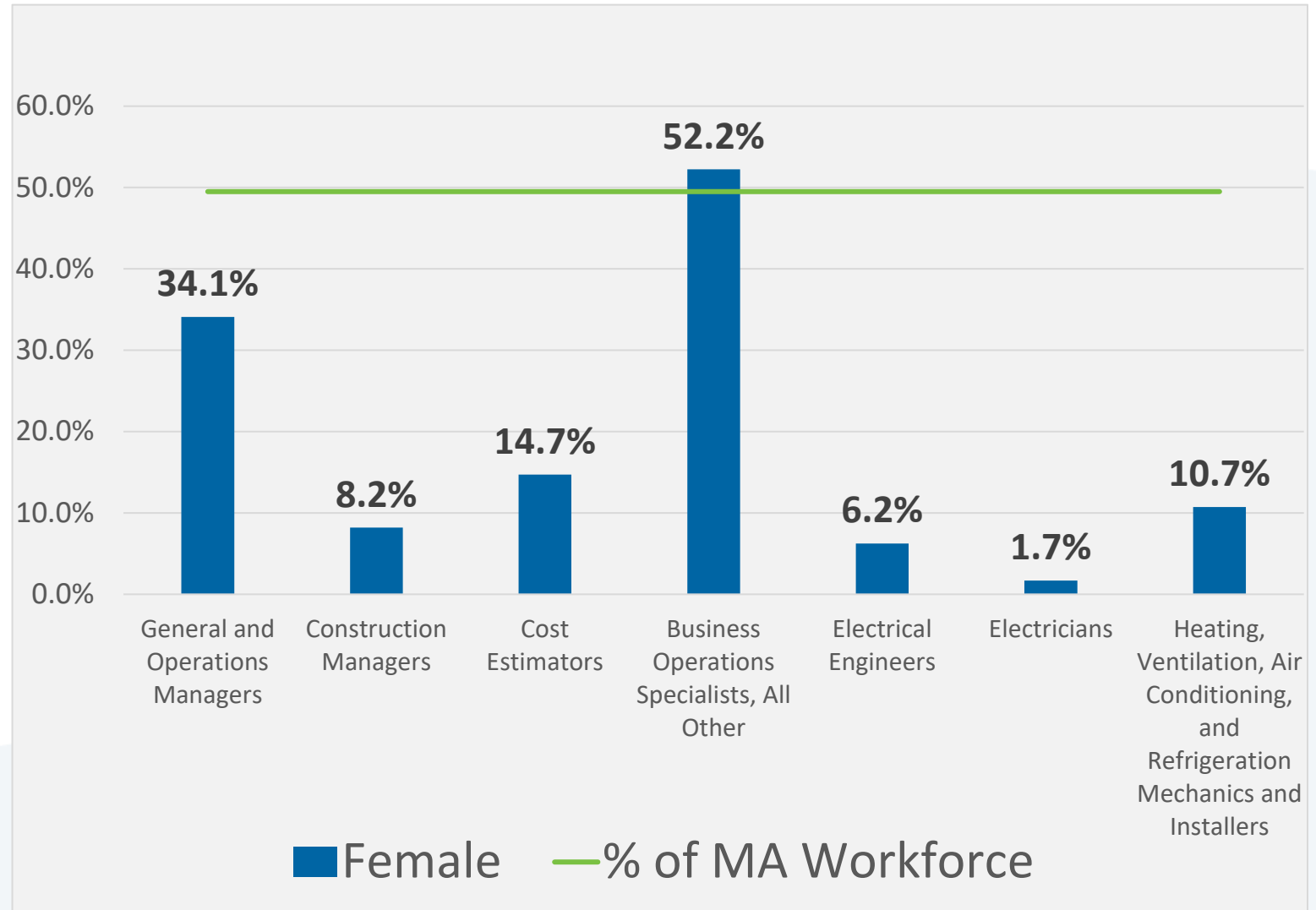


CLEAN ENERGY WORKER DEMOGRAPHICS

	2023 Clean Energy Employment	Percent of 2023 Clean Energy Workforce	Percent of 2023 Overall MA Workforce
Male	74,402	68.6%	51.4%
Female	34,048	31.4%	48.6%
Hispanic or Latino/a/x	17,130	15.8%	12.3%
Not Hispanic or Latino/a/x	91,320	84.2%	87.7%
White	80,322	74.1%	79.4%
Black or African American	8,660	8.0%	8.6%
Asian	9,056	8.4%	7.3%
American Indian or Alaska Native	1,174	1.1%	0.2%
Native Hawaiian or other Pacific Islanders	817	0.8%	0.0%
Two or more races	8,422	7.8%	4.4%

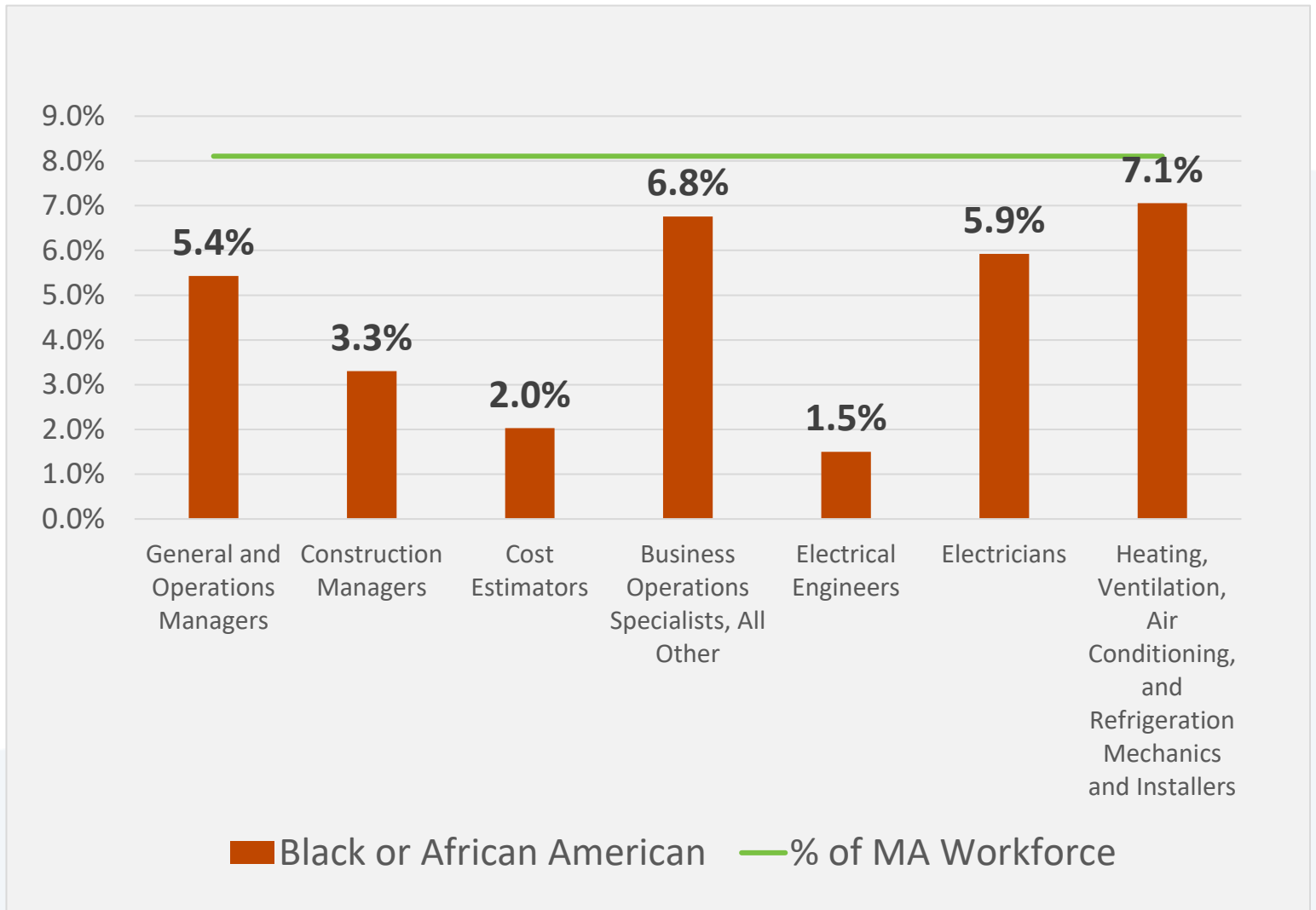
Diversity in the Key Occupations Critical to Clean Energy Women

- Women account for 51% of Massachusetts' overall workforce but represent just 31% of Clean Energy workers.



Diversity in the Key Occupations Critical to Clean Energy Black / African American

- One in three current clean energy workers in Massachusetts are people of color. Still, representation in many of the highest-paying positions is not equitable.



Career Awareness as a strategy

- ✓ **Foundational to building a more robust and inclusive clean energy and climate workforce**
- ✓ **Part of the career development continuum that includes self-awareness, career exploration, work-based learning, and career training**
- ✓ **Most effective when integrated or linked to other age and stage appropriate developmental activities for example, academic, personal, social and work readiness (durable/ soft) skills are all connected**

MassCEC's efforts to expand Clean Energy Career Awareness are focused on supporting local efforts tied to broader systems, which include:

- ✓ Innovation Career Pathways
- ✓ MyCAP (My Career and Academic Plan)
- ✓ Connecting Activities
- ✓ YouthWorks
- ✓ Pre-Apprenticeship programs

MassCEC partnered with EOE in Spring of 2023 to announce a new Clean Energy Innovation Career Pathway



Innovation Pathways are a state designation intended to connect student learning to industry

- ✓ Nearly 100 high schools across the state participate in the program
- ✓ Based on partnerships between high schools and local [MassHire](#) workforce boards & employers
- ✓ Broad industry sector alignment, *not* occupation-specific
- ✓ Technical coursework aligned to industry-recognized credential
- ✓ Advanced courses (AP, IB, dual enrollment)
- ✓ 100-hour work-based learning experience (internship or capstone)
- ✓ Expand access to CVTE programs in traditional academic / comprehensive high schools (wall-to-wall vocational schools are not eligible to apply)

Resource Update: MassCEC's
forthcoming curriculum:
*Massachusetts
Climate Careers:
Powering the Future*

Massachusetts Climate Careers: Powering the Future

Clean Energy Career Awareness Modules and Videos
Anticipated soft launch next month!



Core Concepts

Massachusetts Climate Careers: Powering the Future

Accessible & Customizable

Each lesson can be delivered in a classroom period with minimal prep.

Learner-centered

Program design and resources address barriers and serve environmental justice communities and other underrepresented populations.

Massachusetts-focused

3-5 minute custom crafted videos tell the stories of young workers in clean energy work throughout the state.

Showcase Diversity

The lessons illustrate the variety of available careers and the need for more diverse workers to support ambitious climate goals.

Customizable Learning Paths (50-minute Lessons)

CLIMATE TECHNOLOGY

Foundational lessons

1. Understanding and Combating Climate Change
2. The Power of Climate Solutions

Climate Technology Deep Dives

3. Climate Solutions for our Homes and Schools
4. Buildings of the Future
5. Harnessing the Power of the Sun for our Communities
6. Going Deep! Networked Geothermal Projects
7. Offshore Wind and Massachusetts' Transition to Renewable Energy Sources
8. Transforming Transportation
9. Innovation and the Future of Climate Tech

CLIMATE CRITICAL CAREERS

10. Evaluating a Career in Clean Energy and Climate Tech
11. Electricians
12. Engineers
13. Lineworkers
14. Managers and Analysts
15. Construction, Installation, and Maintenance Workers
16. Wind Turbine Technicians
17. Sales and Customer Services Workers



MASSACHUSETTS
CLEAN ENERGY
CENTER®

Massachusetts Climate Careers: Powering the Future





Opening Activity

Power Runs Our Lives

How would a power outage affect...

- The pharmacist?
- The corner grocery?
- The crossing guard?
- A taxi driver?
- The hospital?

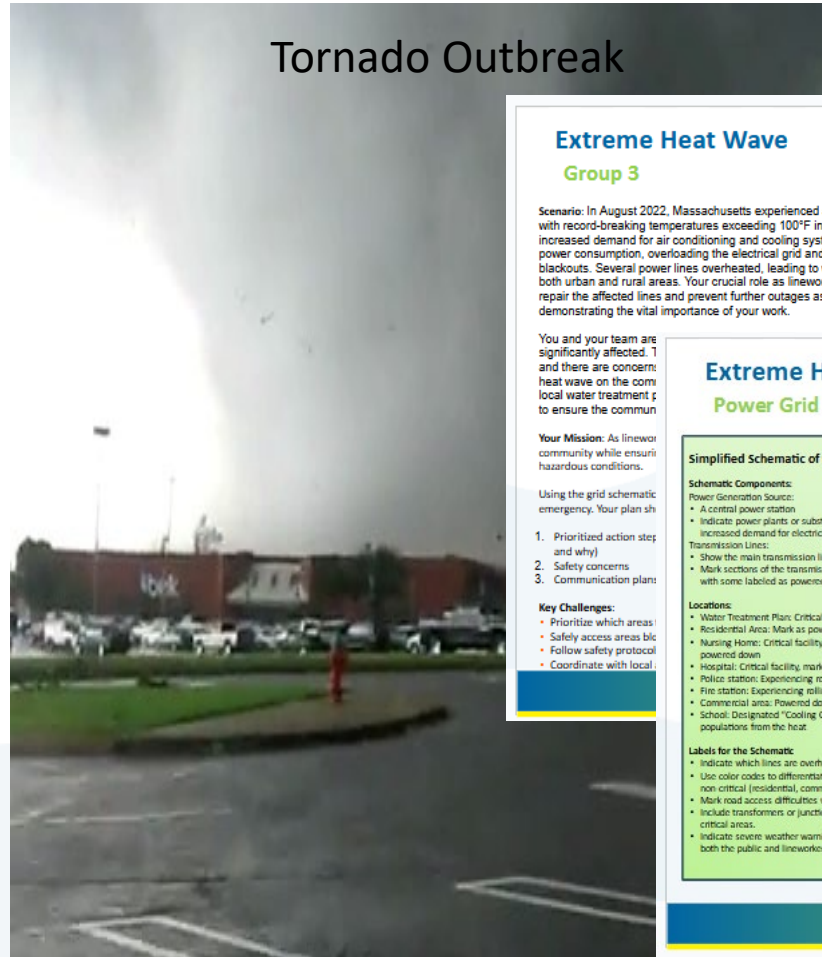


Group Activity - Students take on the role of real professionals

Critical Response: Lineworkers in MA Climate Emergencies



Winter Storm Riley



Tornado Outbreak



Heat Wave

Extreme Heat Wave

Group 3

Scenario: In August 2022, Massachusetts experienced an extended heat wave with record-breaking temperatures exceeding 100°F in some areas. The increased demand for air conditioning and cooling systems led to a surge in power consumption, overloading the electrical grid and causing rolling blackouts. Several power lines overheated, leading to widespread outages in both urban and rural areas. Your crucial role as lineworkers was dispatched to repair the affected lines and prevent further outages as demand increased, demonstrating the vital importance of your work.

You and your team are significantly affected, and there are concerns about the local water treatment plant to ensure the community is safe.

Your Mission: As lineworkers, ensure the community while ensuring hazardous conditions.

Using the grid schematic emergency. Your plan should

1. Prioritized action steps (and why)
2. Safety concerns
3. Communication plans

Key Challenges:

- Prioritize which areas
- Safety access areas
- Follow safety protocol
- Coordinate with local

Extreme Heat Wave

Power Grid Schematic

Simplified Schematic of the Electric Grid

Schematic Components:

Power Generation Source:

- A central power station
- Indicate power plants or substations that are overheating or operating at capacity due to the increased demand for electricity.

Transmission Lines:

- Show the main transmission lines extending from the power generation source.
- Mark sections of the transmission lines as "Overheated/Overloaded" due to high power demand, with some labeled as powered down.

Locations:

- Water Treatment Plant: Critical facility powered down, marked as urgent restoration needed
- Residential Area: Mark as powered down or rolling blackouts
- Nursing Home: Critical facility urgently requiring restoration for medical equipment, marked as powered down
- Hospital: Critical facility, marked with limited power; receiving emergency backup power
- Police station: Experiencing rolling blackouts but still operational with limited power
- Fire station: Powered down or experiencing rolling blackouts, non-urgent
- School: Designated "Cooling Center" with temporary emergency power to protect vulnerable populations from the heat

Labels for the Schematic:

- Indicate which lines are overheated or have been shut down to prevent damage
- Use color codes to differentiate between critical facilities (hospitals, fire/police stations) and non-critical (residential, commercial).
- Mark road access difficulties where lineworkers will need help reaching certain areas.
- Include transformers or junction points where power can be diverted or routed to prioritize critical areas.
- Indicate severe weather warning for Heat Warning—High Risk of Heat-Related Illnesses affecting both the public and lineworkers

You are teaching tomorrow's clean energy engineers.



Carly Lavender

Senior Engineer

Wind Technology Testing Center

Discussion and Implementation Planning

Career Awareness Video Discussion Questions and Implementation

DISCUSS

- ▶ How can you use these resources in your program? How do they align with your current tools, experiences, and supports?
- ▶ What outcomes can these resources help your program achieve?
- ▶ What additional content may be needed for participants to connect to the videos?
- ▶ How do you consider the age and stage of your participants when integrating new resources?

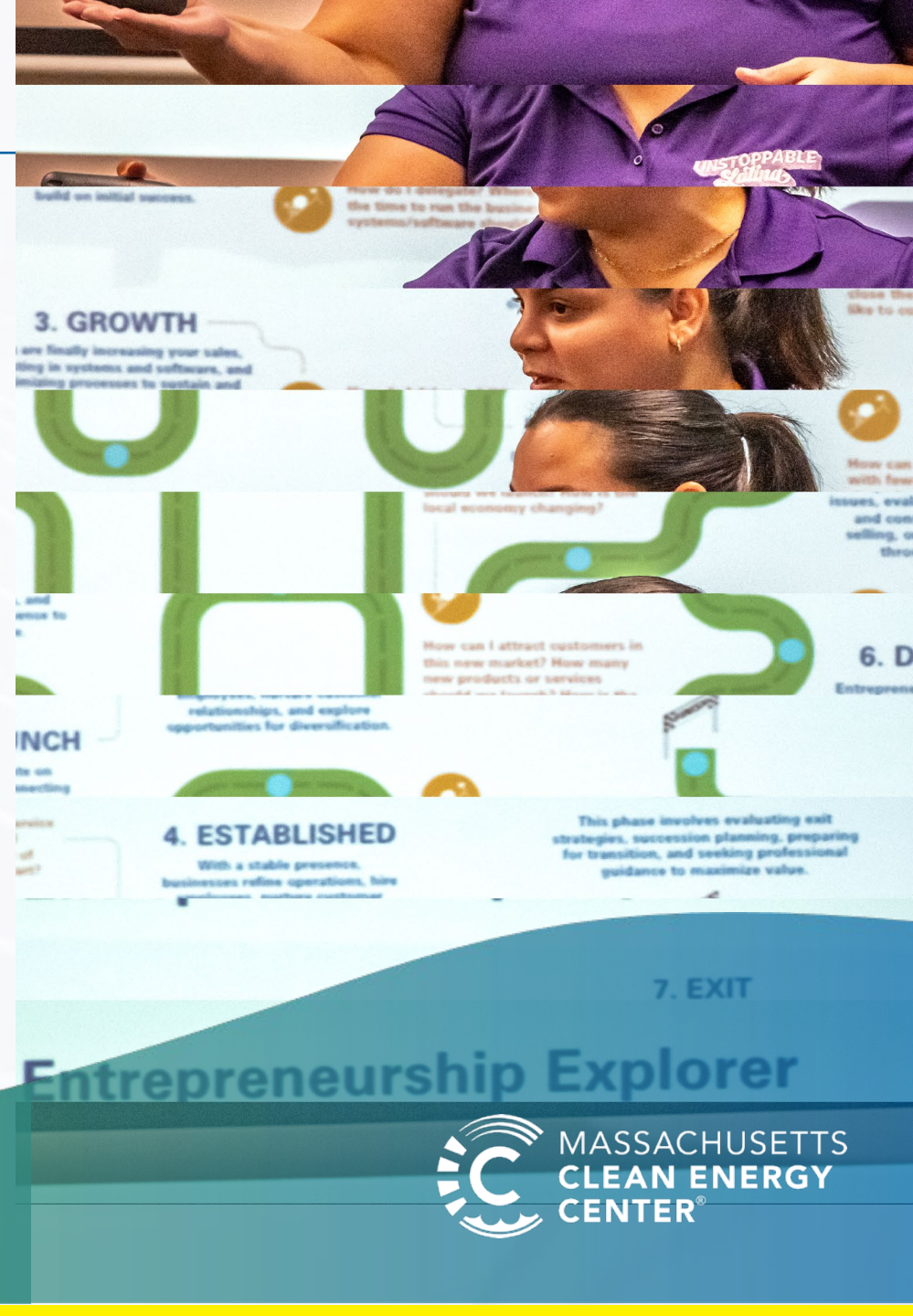
PLAN

- ▶ What steps would you need to take to integrate these resources into your program? How can MassCEC support this?
- ▶ What additional tools, experiences, and supports do you want to prioritize adding to your career awareness programming?
- ▶ How can your evaluation and assessment processes help you optimize the effectiveness of adding new tools, experiences, and supports?

Wrap up and Next Steps

Advancing the MWBE Support Program Through a Hub & Spoke Model

November 21, 2024
MassCEC 3rd Annual Fall Grantee Convening



Agenda

Opening Discussion: Glow, Grow, Support

MWBE Support Goals and the Hub and Spoke Model

Small Group Discussion

Wrap-up and Next Steps

Opening Discussion

Opening Discussion-Glow, Grow, Support

- Partner with a person from another program and have a discussion based on the prompts below

Glow

- Share at least one element of your current or planned program that you are excited about.
- Consider current strategies, partners, and outcomes when sharing.

Grow

- Share at least one element of your current or planned program that you are concerned about.
- Consider also sharing why this is a concern and some of the steps you have taken or plan to take to address it.

Support

- Share at least one type of additional support your program could benefit from.
- Consider ways MassCEC or other partners could help address a current concern.

MWBE Support and The Hub and Spoke Model

Key Goals in the MWBE Support Program

- ✓ **Increase the expertise of MWBEs in climate-critical business fields**
- ✓ Increase MWBE business activity in climate-critical business fields
- ✓ Grow employment and revenue of existing MWBEs that operate in climate-critical business fields and continue long-term growth strategies
- ✓ Create new MWBE firms in climate-critical fields and support the healthy long-term growth of those firms
- ✓ Tie together relevant existing support for small businesses and fill gaps in support for MWBEs focusing on climate-critical business fields

Top Challenges Among Current Programs

Recruitment

(especially in cohort models)

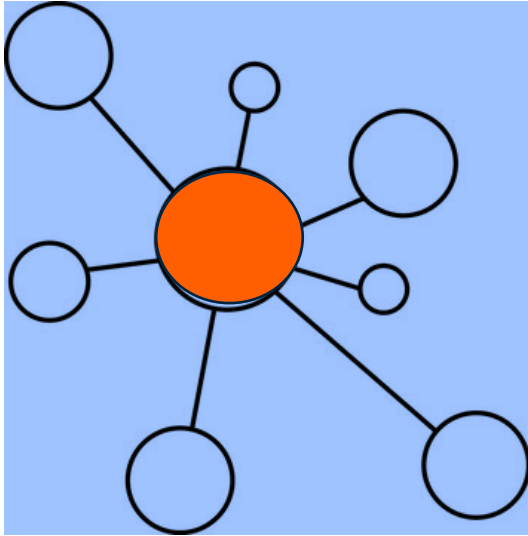
Resources

(funding, predictability, staffing)

Ecosystem Navigation

Structural Barriers

MassCEC is transitioning to a Hub and Spoke Model



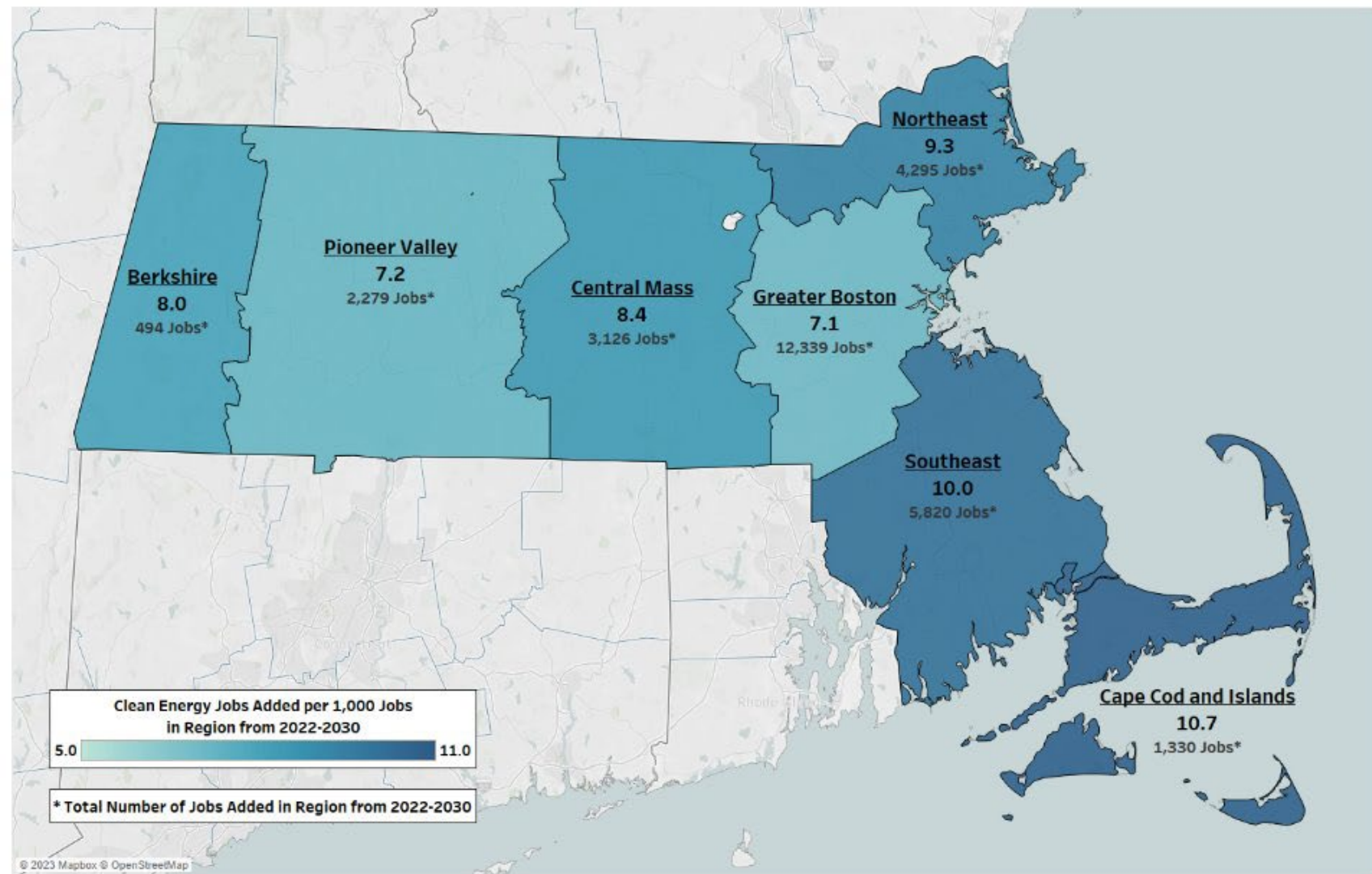
The hub and spoke model will consist of:

- ✓ **Centralized regional "hubs"** that provide core resources, services, expertise, coordination, and a physical location to anchor the programming
- ✓ **Specialized "spokes"** that deliver support and services that are designed to address:
 - Specific sub-sectors within clean energy and climate-tech
 - Different levels of business support needed by stage and scale
 - Local economic and workforce opportunities

The Hub and Spoke Model will:

- ✓ Increase consistency in core program elements
- ✓ Address common challenges and foster stronger coordination
- ✓ Position the program for statewide marketing
- ✓ Focus additional resources on driving stronger outcomes
- ✓ Ensure the model and programs operate effectively in key local and regional ecosystems (workforce, regional planning, and economic development)
- ✓ Align efforts and resources better to key clean energy and climate-tech sub-sectors

By the end of FY26, MassCEC aims to have awarded a Hub in each of the Seven Workforce Skills Cabinet Regions



Phases of Transitioning to a Hub and Spoke Model

Release of First Hub and Spoke RFP- Opportunities for existing and new grantees to apply for implementation, planning, and capacity funding

FY25

Hub and Spoke Models are operational in all 7 regions

Expanded statewide marketing of the Hubs

FY26

FY27

FY28

First awarded Hubs in operation.

Additional Hubs and spokes selected so that all 7WSC Regions have coverage

Marketing piloted

Expanded Marketing and Alignment with Regional Workforce Efforts

Legacy programs integrated/ phased out

Questions



Small Group Discussion

Small Group Discussions

- Connect with others who want to discuss the topic from the same lens

Hubs

- What core services should all hubs offer?
- What attributes make an organization a strong fit to take on the role of a regional hub?
- Which regional partnerships should hubs develop?

Spokes

- What types of programming and services are best left to spokes?
- How can spokes benefit from additional services and recruitment support from the hub?

Coordination

- How can Hubs and Spokes best work together?
- What kind of support do existing programs need to transition to operating in a hub and spoke mode?

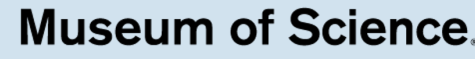
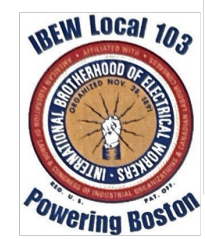
Wrap up and Next Steps



Lunch Slides



\$16 million
for 70+
New Grants



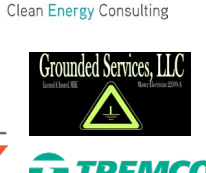
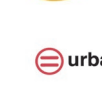


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250+
Workforce Partners
and Growing



250+
Workforce Partners
and Growing



250+
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Workforce Partners
and Growing



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Workforce Partners
and Growing









Clean Energy Internship Program, Spring Session is now open!



- Students can learn about the clean energy industry.
- Students across different majors and training programs can find opportunities.
- MassCEC reimburses for an intern's work.
- Employers can be reimbursed up to \$18 per hour, or up to **\$4,320** per intern for employment between January and May, and **\$8,460** in the Summer session.
- Employers can use the internship program to build their talent pipeline.
- See QR code or go to <https://www.masscec.com/program/clean-energy-internship-program-employers>



Gain valuable work and training experience through the Technical Trades Work & Learning Program

- Vocational high school, After Dark, CTI students, and participants of MassCEC-approved programs* are eligible to participate.
- Participants receive valuable paid on-the-job training and work experience.
- Participants in non-vocational schools can seek 12-weeks of employment.
- Clean energy employers (including construction firms) receive reimbursement for wages (up to **\$8,640** per participant)
- Scan or go to <https://www.masscec.com/program/technical-trades-employers> to learn more!



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Workforce Training, MWBE Support, and Equipment RFPs



MA Residents / Incumbent Workers

Climate-Critical Workforce Training, Equipment, and Infrastructure

Up to \$800,000

- Support MA residents with **Career Pathway Training** or **Incumbent Workers** with upskilling
- Funds eligible for **Equipment and Infrastructure**



Deadlines:
January 24th & May 2nd, 2025

<https://bit.ly/487zICn>

Priority Populations

(EJ Neighborhoods, Fossil Fuel Workers, Federal recognized/State-acknowledged Tribes, MWBEs)

Equity Workforce Training Implementation

Up to \$1.2 Million

- Support individuals from priority populations with **Career Pathway Training**
- Support **Career Exploration for Adult learners**



Deadlines:
January 24th & May 2nd, 2025

<https://bit.ly/3Gqe0Og>

Equity Workforce Planning & Capacity

Up to \$50,000 or \$150,000

Rolling, with Priority Deadlines:
Dec. 6, 2024, and Feb. 28, 2025

<http://bit.ly/43vRtd5>



MWBE Support

Up to \$1 Million

- Address barriers faced by MWBEs
- Move towards Hub and Spoke Model

Deadlines:
TBA 2025

FY24 RFP available here: <https://bit.ly/3N4J4Ha>



2024 Fall Awards Announcement at Brockton High School



Industry Workforce Needs Panel

Moderator:

Panelists:



Emily Reichert
CEO

Massachusetts Clean Energy
Center



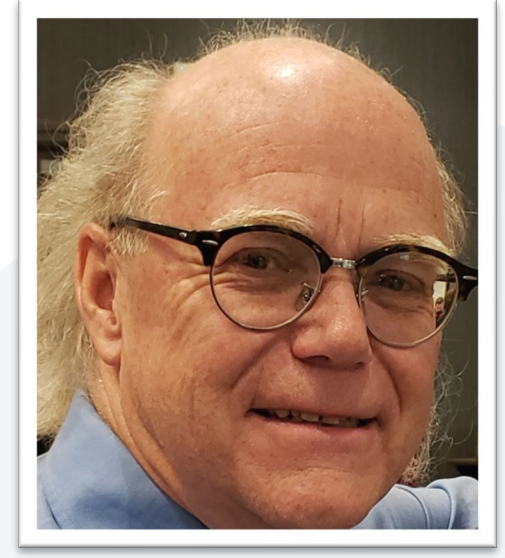
Chiderah Okoye
Managing Director

Transform Power Systems



Josue Pierre
Diversity, Equity and Inclusion
Coordinator

International Brotherhood of
Electrical Workers (IBEW) Local 103



Craig Van Batenburg
CEO

Automotive Career
Development Center (ACDC)



November 2024 In-Person Convening

Workforce Plan Updates



Federal Funding & Multi-State Climate Commitments

CPRG: Climate Pollution Reduction Grants (EPA), Latest and Zero Building Energy Codes

TREC: Training for Residential Energy Contractors (DOE), formula funding

USCA: US Climate Alliance Climate-Ready Workforce Initiative

EAT: Energy Auditor Training (DOE)



Press Release | September 2024

U.S. Climate Alliance Launches Governors' Climate-Ready Workforce Initiative, Aims to Train 1 Million New Registered Apprentices by 2035

September 23, 2024

PRESS RELEASE

Healey-Driscoll Administration Celebrates \$20 Million Federal Award for Building Decarbonization, Announces Draft Building Reporting Regulations

New Initiatives Will Reduce Emissions from Buildings, Support Building Owners and Professionals, and Build the Clean Energy Workforce

PRESS RELEASE

Healey-Driscoll Administration Celebrates \$2 Million Federal Award for Energy Auditor Training

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Critical Discussions for Advancing Practice

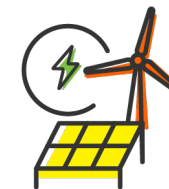
Each of you has been asked to choose a topic that you would like to discuss with other CEC grantees



LEARN FROM THE WORK AND
EXPERIENCES OF OTHER
GRANTEES



SHARE YOUR LEARNING
AND PROGRAM
MODIFICATIONS



SHARE CHALLENGES
AND STRATEGIZE
HOW TO ADDRESS
THEM

Key Topics



- F1: Registered Apprenticeship **(Main Ballroom)**
- F2: Wraparound Support for Training **(Devens Club B Room)**
- F3: Wraparound Support for Training (2) **(Devens Club B Room)**
- F4: Long-term participant outcome/post-program reporting **(Devens Club B Room)**
- F5: Industry Recognized Credentials **(Main Ballroom)**
- F6: Partnering with High Schools for Career Awareness/Training **(Devens Club A Room)**
- F7: Wrap Around Support for MWBEs **(Main Ballroom)**
- F8: Returning Citizens **(Main Ballroom)**
- F9: Retention—Training **(Devens Club A Room)**
- F10: Transitioning from Planning to Implementation (Training) **(Devens Club A Room)**
- F11: Recruitment and Retention—MWBE Support **(Main Ballroom)**
- F12: Transition from Planning to Implementation (Career Awareness Focus) **(Devens Club A Room)**
- F13: Community Engagement—MWBE Support **(Main Ballroom)**
- F14: Program Marketing for Recruitment **(Devens Club B Room)**



Lessons Learned Small Group Discussion Format

You will have a discussion facilitator at your table. They will facilitate the discussion to include:

1. A quick round of **introductions**
2. An **overview of the topic** and what they have learned about it in the context of their program and grant
3. Opportunities to answer **clarifying questions**
4. **Reflections from other participants** about relevant learnings and program improvements
3. A **shared look ahead** to the primary ongoing challenges in this topic area and an opportunity to identify what additional support, tools, and resources would be most meaningful



Critical Discussions for Advancing Practice

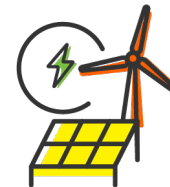
Whole Group Share Out



LEARN FROM THE WORK AND
EXPERIENCES OF OTHER
GRANTEES



SHARE YOUR LEARNING
AND PROGRAM
MODIFICATIONS



SHARE CHALLENGES
AND STRATEGIZE
HOW TO ADDRESS
THEM

Wrap Up