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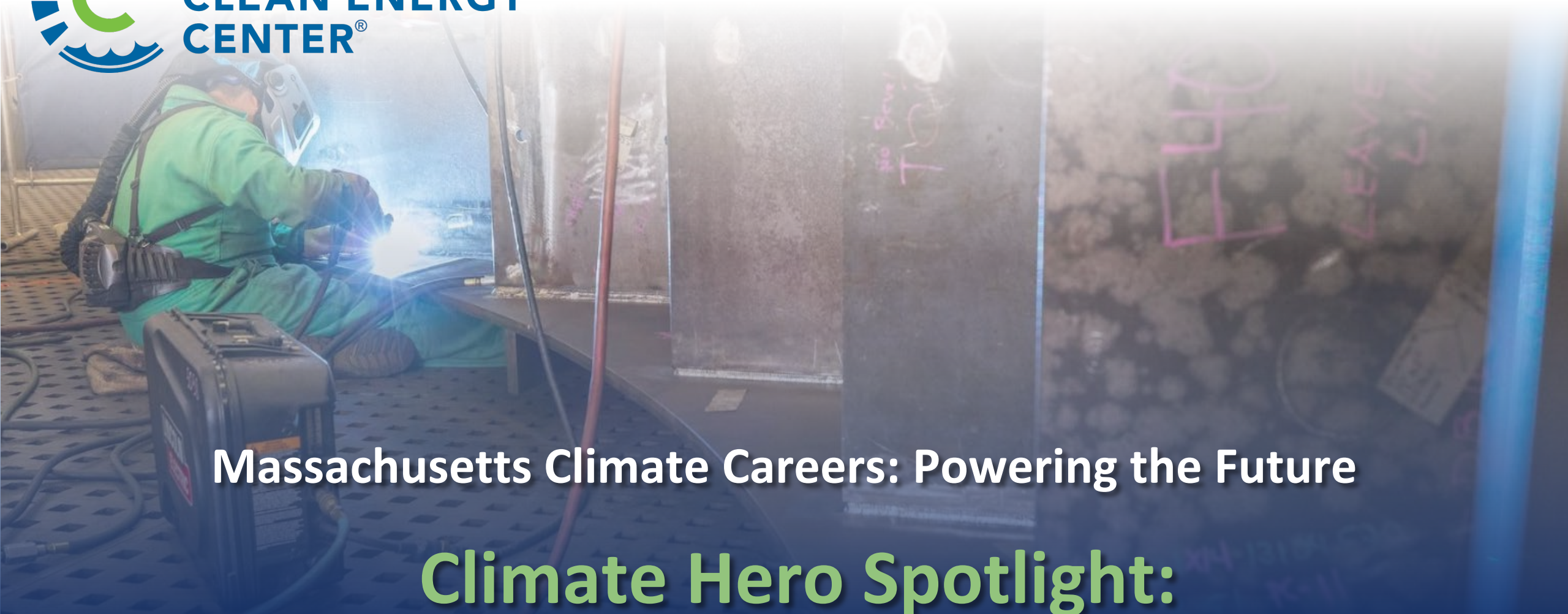


Massachusetts Climate Careers: Powering the Future

Climate Hero Spotlight: Electricians

Opening Activity

What is in an electrician's toolbox?

Multimeter:

- Measures electrical properties, such as voltage, current, and resistance
- Essential for troubleshooting and safety

Opening Activity

What is in an electrician's toolbox?

Wire strippers:

- Strips the insulation from wires
- Ensures clean, safe wire connections

Opening Activity

What is in an electrician's toolbox?

Conduit bender:

- Bends metal and plastic conduit pipes and tubing to specific angles
- Allows electricians to organize wires in safe, specific routes through buildings

Opening Activity

What is in an electrician's toolbox?

Circuit tester:

- Used to check if any electrical power is running through an outlet or circuit
- Essential precaution for safety

Today's Agenda

- The Big Question and My Climate Goals
- Climate Watch and Discussion
- Electricians in Clean Energy Projects
- Electrician Skills and Career Pathways
- Electrician Project Planning Challenge
- Takeaways and Closing Activity

The Big Question

How do electricians play a critical role in implementing climate solutions?

My Climate Goals

When you complete this lesson, you'll be able to:

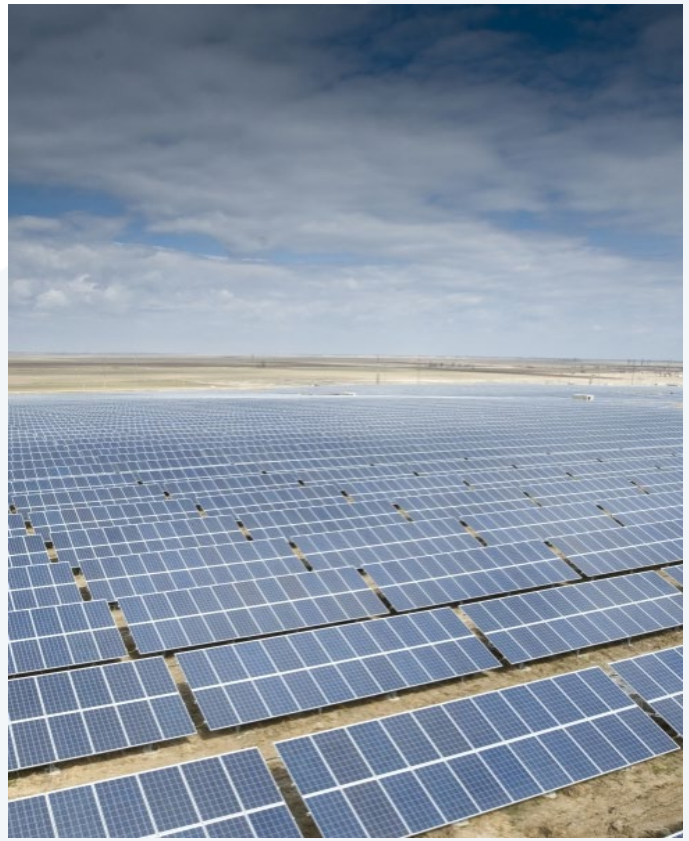
1. Explore the range of clean energy projects that electricians work on.
2. Identify the skills, training, and experiences needed to become an electrician.
3. Discuss what aspects of a career as an electrician are aligned with your skills, interests, and desired work environment.

Electricians in Clean Energy

- Solar panel installation and maintenance
- EV charger installation
- Wind turbine maintenance
- Building electrification and upgrades
- Energy efficiency retrofits

Solar Energy

Residential, commercial, and utility-scale solar projects



Wind Energy

- Offshore wind farms
- Utility-scale wind farms
- Community wind projects

Building Electrification

- Residential retrofits
- Commercial upgrades
- Building electrification

Transportation

- Residential EV chargers
- Commercial charging stations
- Public EV infrastructure

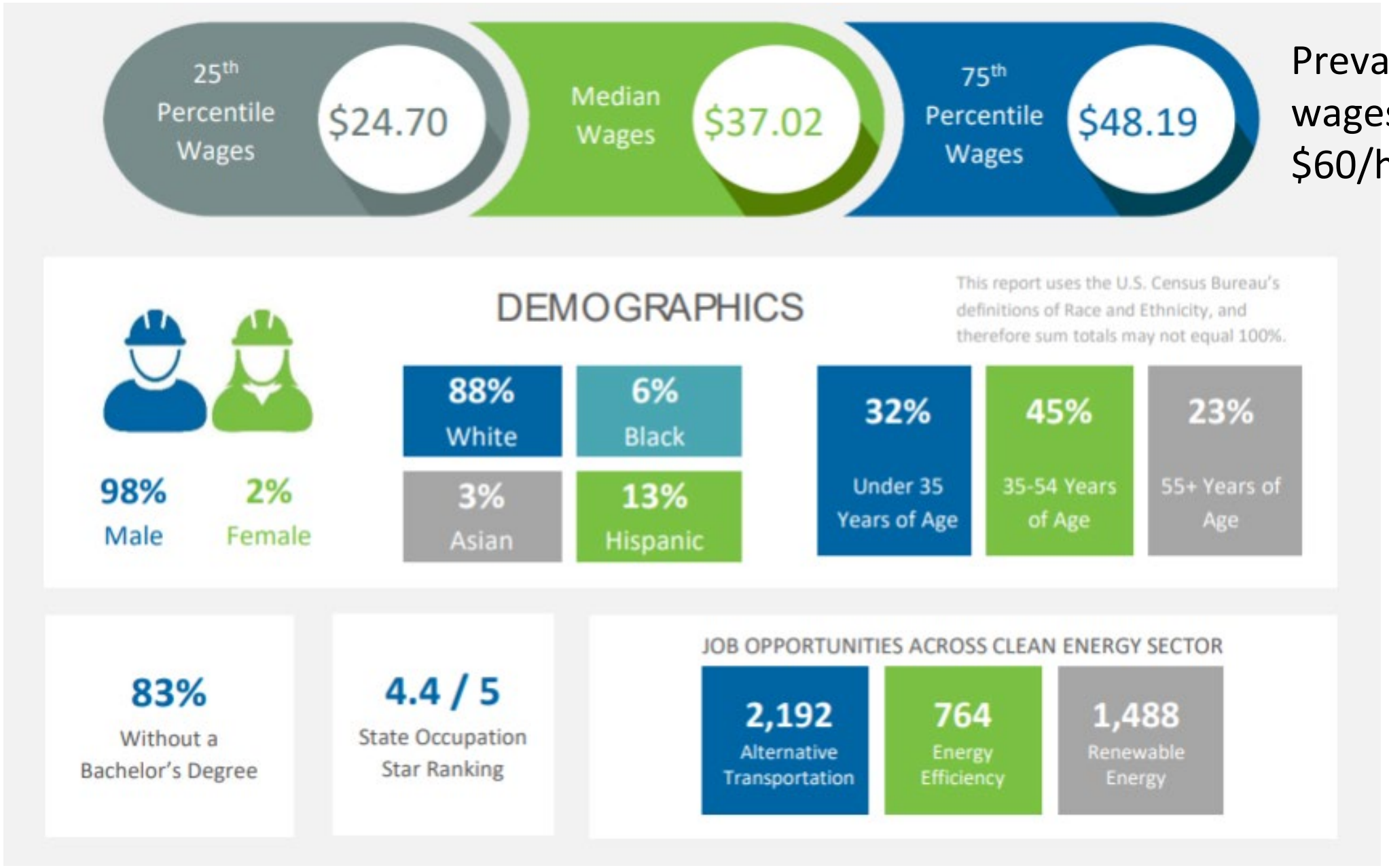
Climate Watch: Video

Climate Watch Discussion

1. What did the apprentices say they liked about beginning their career path with an apprenticeship?
2. What is one question you would ask an apprentice?
3. What do the apprentices highlight as benefits of training through the IBEW trade union?

Clean Energy Workers' Trade Unions

- International Brotherhood of Electrical Workers
- Sheet Metal Workers International Association
- International Association of Heat and Frost Insulators and Asbestos Workers
- United Association of Journeymen and Apprentices of the Plumbing and Pipefitting Industry
- International Union of Painters and Allied Trades
- Laborers International Union



Prevailing wages up to $60/hour.

Knowledge and Skills

- Safety practices and protocols
- Electrical installation and wiring
- Troubleshooting and problem-solving
- Familiarity with renewable energy systems

Training Pathway

- High school diploma or GED
- Vocational training programs
- Apprentice (work + school)
- Journeyman (pass an exam)
- Master electrician

Demand for electricians will have increased by **37 percent** by 2030!

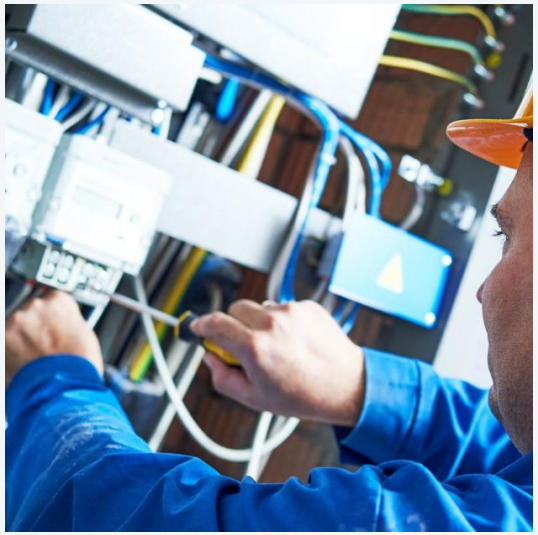
Today's Group Activity

Electrician Project Planning Challenge

Solar installation

EV charge station setup

Wind turbine maintenance



Energy-efficient building retrofit

Key Points

- Electricians are essential to installing, maintaining, and upgrading systems necessary for the clean energy transition.
- Electricians work in residential, commercial, and industrial settings.
- To become an electrician, one must have problem-solving skills, technical expertise, and adaptability to new technologies.
- The shift to clean energy creates a growing demand for electricians.

Closing Activity

Before You Go

1. What challenges will we face if we don’t have enough electricians for clean energy projects?
2. How can we encourage more people to enter the electrician field?
3. How do electricians help to build climate resilience?

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