



NY - GEO 2024

APRIL 8-9 | ALBANY NY



Getting Serious About Workforce Development

Moderator: • Rachel Carpitella / [Sustainable Westchester](#)

Panel: • Jack DiEnna / [IGSHPA](#)
• John Murphy / [UA](#)
• Dave Bowers / [IUOE, Local 150](#)
• Wayne Mackey / [Laborers' Local 17](#)
• Adele Ferranti / [NYSERDA](#)

WORKFORCE DEVELOPMENT - 11:00 AM



Getting Serious About Workforce Development

John (Jack) DiEnna, Jr.
Board Chair & Ambassador, IGSHPA
and
Executive Director, Geo-Nii



Why is IGSHPA Involved in Workforce Development?

- As the industry grows, we need more ...
 - Driller technicians/excavators
 - HVAC technicians
 - Pipefitters
 - Designers
 - Inspectors

- IGSHPA training can help bridge the gap
- IGSHPA membership provides resources and networking
- IGSHPA standards support consistency and quality for new workforce entrants



Current Courses

- **Certified GeoExchange Designer (CGD)**
 - Commercial GHEX Design and GSHP System Integration
 - Created for professional engineers, registered architects, installers, and contractors
 - Provides AEE (Association of Energy Engineers) and IGSHPA certification
- **Certified Geothermal Inspector (CGI)**
 - Inspection / Project Oversight Training
 - Created for code enforcing inspectors, MEP firm project managers, utilities, installers, developers, architects, manufacturers, distributors, HVAC contractors, trenching/drilling contractors
 - Provides IGSHPA certification

Current Courses

- Accredited Installer (AI)
 - Residential/Light Commercial GHEX Design and HVAC System Integration
 - Created for installers, contractors, dealers, manufacturers, distributors, architects, mechanical engineers, trenching/drilling contractors
 - Provides NATE (North American Technician Excellence) and IGSHPA certification



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Workforce Development Efforts

- **Modularization:** New training modules based upon DOE job descriptions
 - 2013 report (GHPC, IGSHPA, ORNL, NGWA, & others)
 - 14 jobs related to the geothermal heat pump industry
- Increases accessibility to training
- Lowers cost of training
- Allows specialization (by job function)
- Provides pathway to career growth

Modularization

- Accredited Installer (AI) course broken up into ...
 - Installation Technician (inside equipment)
 - Installation Technician (outside the building)
 - Driller Technician / Grouter
 - Service Technician
 - Fusion Technician / Tie-in Crew
 - Residential/Light Commercial Designer
- Other courses (Commercial Designer, Inspector) in the process of being updated for the latest technology /applications

Modularization Progress

- Installation Technician (Inside Equipment)
- Service Technician
- Residential/Light Commercial Designer
- Commercial Designer
- Geothermal Inspector
- Other modules

- Driller training / apprenticeship programs

COMPLETE (April 2024)

COMPLETE (April 2024)

Fall 2024

Summer 2025

Summer 2025

End of 2025

Working with
community colleges,
labor unions,
other organizations



IGSHPA Membership

- Individual
 - Currently employed
 - Students & Retired
- Business
 - Contractors (HVAC & GHEX Installers)
 - Distributors, Architects/Engineers, supporting businesses
- Manufacturers
- Utilities
- Community Organizations / Schools / Associations



Thermal Energy Network and Jobs Act

Areas of Focus for the Workforce

Prevailing Wage

Ensures that workers are paid a fair wage

Registered Apprenticeship

The UA has a 5-yr registered program with the DOL. In NYS apprentices receive 1200 hours of classroom instruction and 8000 hours of on-the-job training. These programs already have the required coursework to ensure a skilled labor force on TEN projects.

Underserved Communities

Requires 40% of projects to directly benefit underserved communities most impacted by climate change.

NYC and NYS pre-apprenticeship programs offer a direct-entry path into BCTC training programs.



UA Training

Train-the-Trainer
Over 200 UA SMEs
+
Industry Partners



Over 2000 Local Union
Instructors attend annually



Distributed to over 375k
members including 55K Apprentices
across the US and Canada





Applicable Courses to TENs

- Heat Fusion Joining of Thermoplastic Pipe
 - Partnership with McElroy covering theory, application, and proper procedures of joining plastic pipe.
- Pipefitting Layout
- Trench Safety VR training simulator
- Rigging and Crane Certification courses
- Hydronic Heating and Cooling Systems
- Pump Service and Maintenance
- HVACR Flow Measurements and Concepts
- Start, Test, and Balance
- Building Automation Systems
- Project Management
- Foreman Certification
- Advanced Plan Reading
- Jobsite Technology



Currently in Development

Thermal Energy Networks





1990: Entered The drilling industry 1999 - 2001: Lead driller for Rock and Soil Inc.
 2001 - 2009: Drilling department manager for C.T.T. a division of Terracon consultants.



2009:- Current: Developed and administers the Geothermal Well Drill Operator apprenticeship program, the only U.S. Department of Labor registered program for Geothermal Geotechnical and Water Well Drilling.

David Bowers

- 2017: OSHA Safety and Health Master Trainers Certificate from West Virginia University



DrillerCast

2019 - Current: Writer for TheDriller.com, specializing in safety and workforce training and development articles

2020 – Current: Co host of DrillerCast the podcast about the current state of the industry, and how to get to the industry next level...while having fun.



Driller.com

The Opportunity

- **Our industry has once in a generation opportunity!**
- **The time is now to develop the workforce that will carry us into the future!**
- **How to develop the next generation...**
 - **We must provide:**
 - **A Family Sustaining Wage for today's economy**
 - **A safe place of employment**
 - **Help in Employee meeting milestones on a reasonable timetable, and reward for meeting those milestones**
 - **Mentorship**
 - **A clear training plan**

Who has heard this statement...

“Our industry is desperate for Quality Employee Candidates.”

Organized trades already run programs that meet the industry's workforce development needs



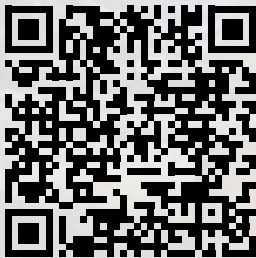
Learn more about PLA's

Many projects may have to be done under a project labor agreement

Advantages of working under a PLA

1. Provide uniform Costs work rules
2. Provide a reliable and uninterrupted supply of qualified workers at predictable costs
3. Ensure that a project will be completed on time and on budget due to the supply of qualified labor and relative ease of project management

The final 10% tax credit for doing large scale network geothermal requires General Contractors and Subcontractors to be working under a Collective Bargaining Agreement, and have a U.S. DOL accredited apprenticeship program



Federal Tax Incentives for Commercial Geothermal

When all contractors have the same labor cost, bidding becomes about who can be more efficient.

GWDO Apprenticeship Graduation Requirements

(Classes and Certification Prep Provided at No Cost for The Apprentice)

- 6000 hours of on-the-job training
- Minimum of 4 hands-on drilling related performance tests
- A minimum of 494 hours related training hours focusing on geothermal and water well drilling and installations
- 40-hour Hazwoper
- OSHA 10 Hour Safety Awareness Training
- OSHA Powered Industrial Truck Cert.
- CDL Class A
- Standard First Aid/CPR/AED
- Financial Tools for The Trades
- Rigging Person Safety Training Certificate
- Signal Person Safety Training Certificate
- IGSHPA Geothermal Installers Qualification
- MSHA Surface New Miner
- Basic Mechanical Systems Maintenance
- Grade Instruments and Plans usage

Secret...

**If The Contractor
Cannot Make Money,
Organized Labor
Cannot To Continue To
Exist.**

“Offer People a Career not a Job, and watch them flourish”

WE ARE LiUNA!

Feel the Power



Wayne Mackey

Training Administrator
Laborers' Local 17 Training & Education
Fund And Eastern NY Laborers Training
Center Inc.



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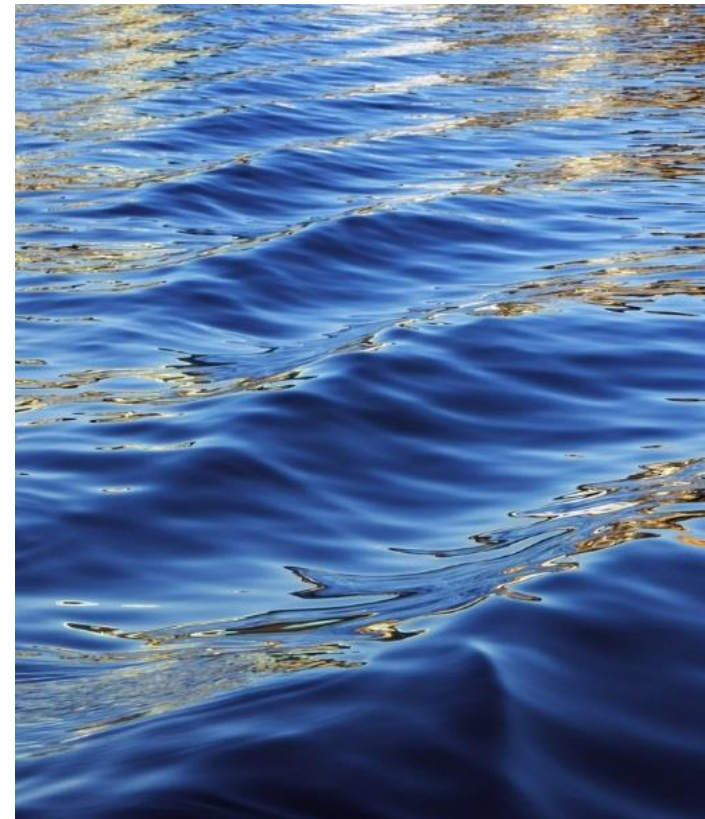
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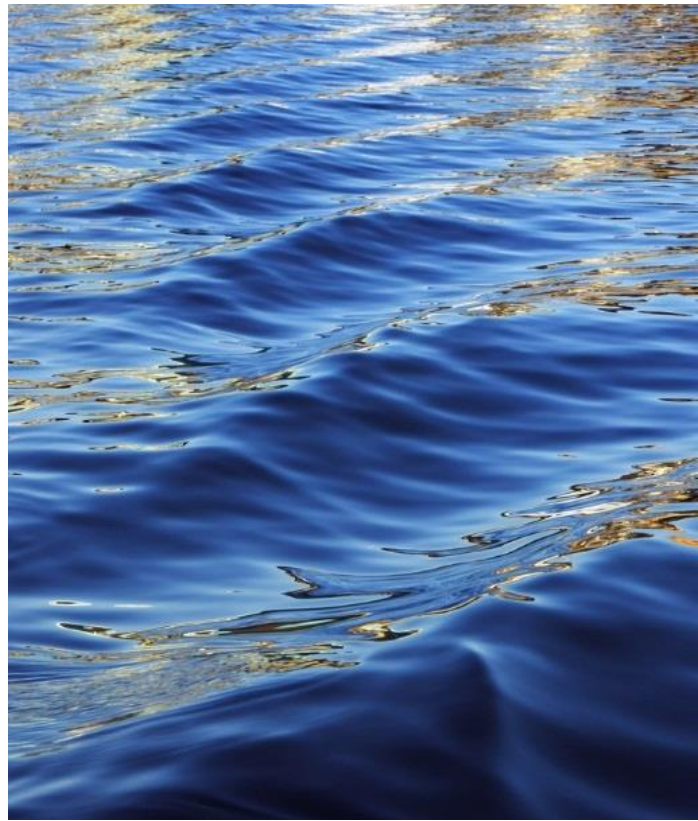














NYSERDA Workforce Development & Training Programs

Adele Ferranti, Director, Workforce Development & Training
NY GEO Conference, April 9, 2024



NYSERDA

NYSERDA Workforce Development and Training Programs

NYSERDA has dedicated more than **\$180 million** in funding to support clean energy workforce development and training.

The Climate Act mandates that no less than 35% with a goal of at least 40% of our climate action benefits will go toward New York's disadvantaged communities.

NYSERDA funds initiatives that:

1. Prepare **new workers** for clean energy jobs;
2. Provide new/advanced skills for **existing workers** in the industry;
3. Support businesses in hiring and training workers.

**Clean
Energy
Businesses**

**Job
Seekers &
Students**

**Training
Providers &
Community
Partners**

**Building
Owners &
Property
Managers**

Current Funding Opportunities for Clean Energy Workforce Development and Training

Hiring Support

PON 3982

On-the-Job Training for Energy Efficiency & Clean Technology

PON 4000

New York State Clean Energy Internship Program

PON 4772

Climate Justice Fellowship Program

Capacity Building

PON 3981

Energy Efficiency & Clean Technology Training

PON 4482

Cooperative Advertising & Training for Clean Energy Partners

PON 5357

Building Operations & Maintenance (O&M) Training

PON 5437

Apprenticeship and Pre-apprenticeship Clean Energy Training



Thank You!

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NYSERDA



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