



Introduction to Workforce Development Energizing Rural Communities Prize

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November 8, 2023

Today's Objectives

1. Introduction to Workforce Development
 - What is it?
 - Who is involved?
 - What can it look like?
2. Employment Considerations for Clean Energy Investments
3. Process for Creating a Workforce Program

Introduction to Workforce Development

What is Workforce Development?

Workforce Development (WFD) refers to the processes involved in preparing people with the **awareness, knowledge, skills, and support** they need to meet the current and future needs of employers.



Image source: <https://cdn.givingcompass.org/wp-content/uploads/2018/11/13113625/The-Role-of-Education-in-Workforce-Development.jpg>

Workforce Development is trainee/worker-centered.

What is Workforce Development?

Building Awareness and Interest

- Helping educators talk about different career paths
- Industry presentations/projects with local schools
- Public awareness campaigns
- Student competitions
- Job fairs
- Local/regional workforce coalitions.

Developing Knowledge and Skills

- Primary/secondary/post-secondary education
- Career & Technical Education (CTE)
- Skills training programs (private + nonprofit)
- Internships
- Apprenticeships
- Corps/service year models
- Employment readiness & wrap-around services.

Job Readiness and Placement

- Employer outreach and recruitment
- Relationships with/agreements between education and training agencies and employers
- Hiring practices
- Employee onboarding.

Supporting Worker Growth and Career Pathways

- Community benefits agreements
- Company culture
- Diversity, equity, and inclusion
- Upskilling/professional development
- Succession planning.

Equity has a place throughout workforce development.

Who is Involved in WFD?

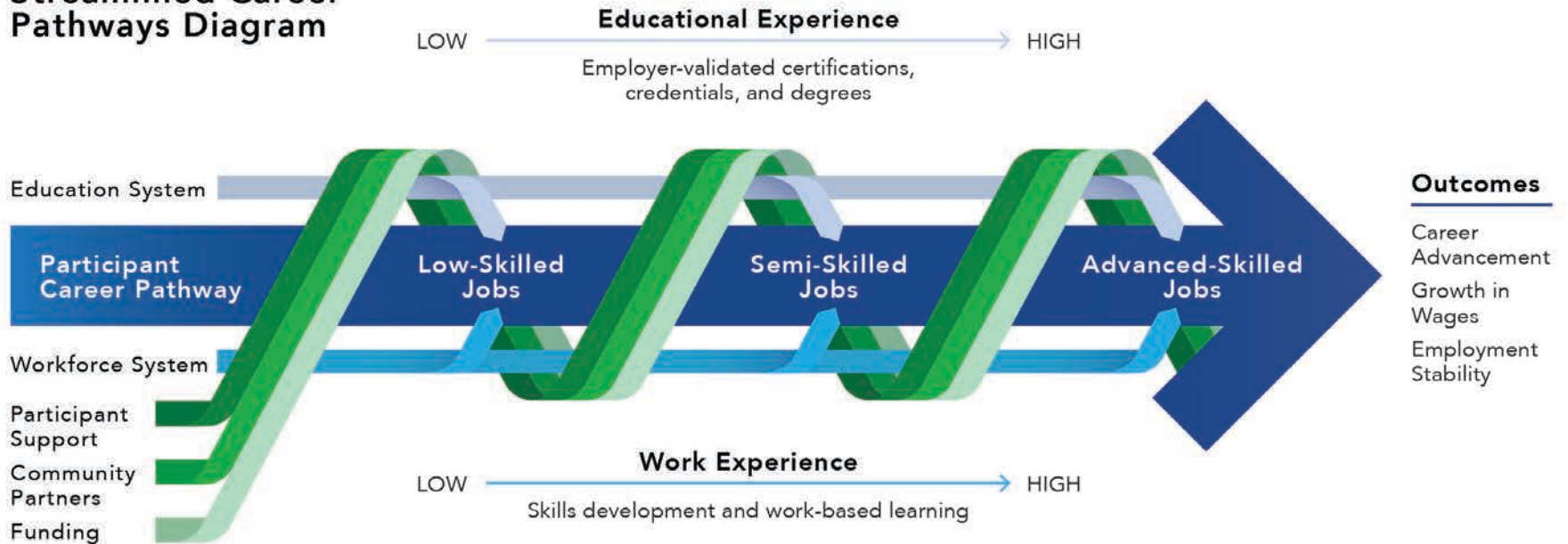
Career Pathway Ecosystem Diagram



Partnerships are key to successful implementation.

Who is Involved in WFD?

Streamlined Career Pathways Diagram



What Can WFD Look Like?

Creating or expanding programming with existing ecosystem stakeholders:

- K-12/CTE
- Community colleges and technical schools
- Colleges & universities
- Apprenticeships/organized labor
- Nonprofits
- Continuing education and worker upskilling.

What Can WFD Look Like?

Green Generation Workforce Development Initiative

Community and Economic Development Association of Cook County (CEDA) + University of Illinois + Urban Efficiency Group, IL

- Energy efficiency training with local high schools (focus on students of color not in STEM schools)
- Career introduction/exploration + summer programs + 1-2 times/month during school year
- Students earn BPI air leakage control installer and infiltration and duct leakage certifications.

What Can WFD Look Like?

CNC Academy

Uniquely Abled Project, CA

- 13-16 week training program that teaches young adults with high-functioning autism to be entry-level CNC machinists
- Training offered through several community colleges and Tooling U-SME
 - Includes job placement and post-hire support through [American Job Centers](#)
- Funded by Goodwill Industries and CA Department of Rehabilitation.

What Can WFD Look Like?

Climate Careers & Opportunity Build Programs

Rising Sun Center for Opportunity, CA

- Rising Sun offers 4-6 week part time paid energy efficiency and construction skills training for low-income youth (ages 15-22)
- Rebuilding Together East Bay North supports them through [MC3](#) apprenticeship-readiness program (NABTU)
- Opportunity for employment with partners for up to 1 year
- Funded by multiple sources, including WIOA funding.

What Can WFD Look Like?

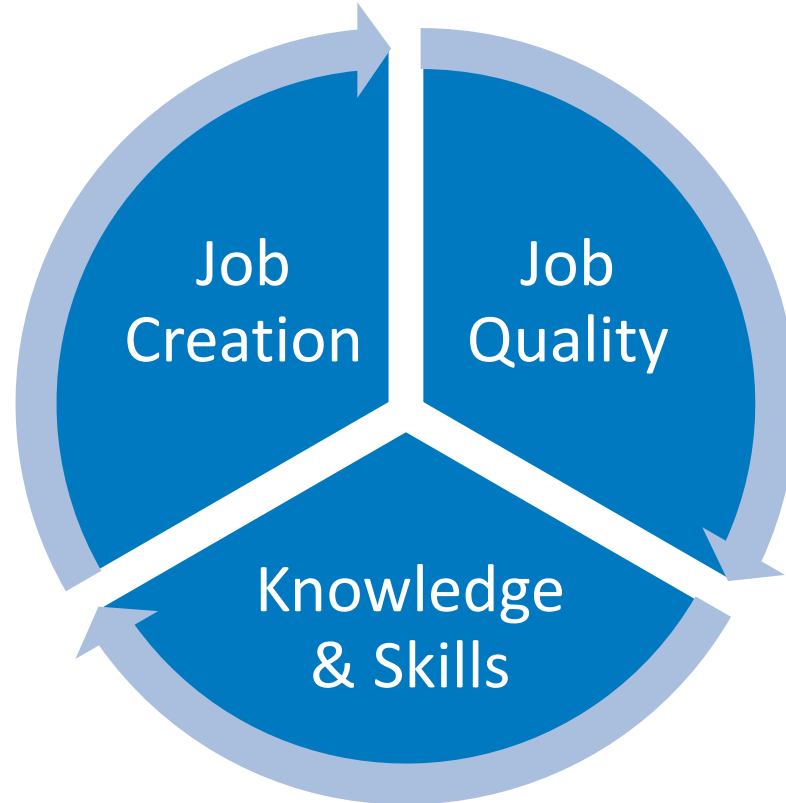
Home Energy Career Training

Center for Energy and Environment, MN

- Energy efficiency training for individuals from historically under-represented groups
- 5 week paid in-person training (includes BPI Building Science Principles Certification + wrap-around supports)
- Option for paid internships with local utility or weatherization agency
- Funded by Xcel Energy.

Employment Impacts of Clean Energy Investments

How Clean Energy Investments Can Impact Local Employment



Job Creation

It is important to understand the type of jobs created by different clean energy investments.

- Total jobs
 - Direct (ex: people designing and installing technologies)
 - Indirect (ex: supply chain)
 - Induced (ex: un-related jobs supported by spending by workers).
- Local vs. out of region
- Short term vs. long term
- New vs. net.

Job Creation

Example: Solar PV

Utility-Scale Projects Local Impact:

↪ (likely out-of-region)



Small-Scale Projects Local Impact:

↪ (potentially out-of-region)



<https://www.nrel.gov/docs/fy23osti/86712.pdf>

Job Quality

It is important to understand how jobs created by clean energy investments may impact workers.

- Wages
- Access to benefits
- Health and safety.

Job Quality

Example: Sample Building Electrification Industry (National Wage Data – 2021)

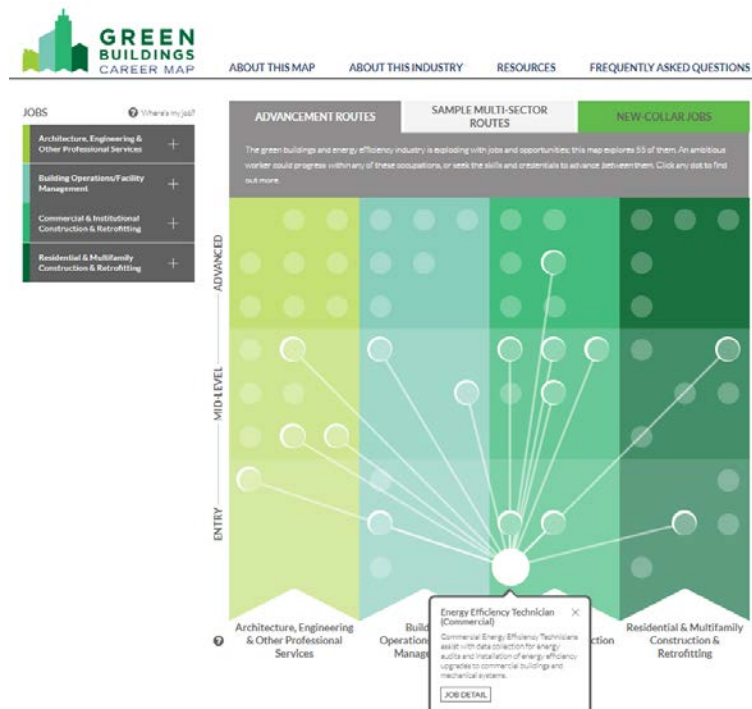
Industry	Residential Average Annual Wages	Non-Residential Average Annual Wages
Electrical contractors	\$58,259	\$76,837
Plumbing and HVAC contractors	\$57,603	71,437
Drywall and insulation contractors	\$65,215	

https://data.bls.gov/cew/apps/data_views/data_views.htm#tab=Tables

Knowledge and Skills

It is important to understand how jobs created by clean energy investments may require new knowledge or skills in your local workforce.

- Knowledge and skills needed
- Local education and workforce ecosystem stakeholder offerings and gaps
- Skills transferability



Process for Creating Workforce Programs

Program Development Process

1. Market Assessment

- Challenge
- Demand and opportunity
- Job market
- Potential partners.

2. Program Development

- High level goals/ objectives
- General approach
- Implementation details.

3. Partner Engagement

- Partner responsibilities
- Building trust
- Formalizing the partnership.

4. Program Implementation

- Developing materials
- Recruitment
- Trainee engagement
- Tracking and reporting.

5. Program Evaluation

- Analyzing reported outcomes against goals
- Investigating where and why goals/outcomes don't align
- Making changes.

Questions



Resources

Job Creation

- [NREL Jobs & Economic Development Models \(JEDI\)](#)
- [NREL State-Level Employment Projections for Four Clean Energy Technologies in 2025 and 2030](#) (includes job multipliers)
- [Employment Impacts of New U.S. Clean Energy, Manufacturing, and Infrastructure Laws](#) (includes job multipliers)
- [NREL Clean Energy Employment Impacts Fact Sheet](#)

Job Quality

- [US Department of Labor Good Jobs Initiative](#)
 - [Good Jobs Principles](#)
- [US Energy & Employment Report \(USEER\)](#)
- US Bureau of Labor Statistics
 - [Industry data search](#) (NAICS)
 - [Occupation data search](#) (SOC)

Knowledge & Skills

- [O*Net Occupation Information](#)
- [DOE Career Maps](#) (Solar, Wind, Marine Energy, Hydropower, Hydrogen and Fuel Cells, Green Building, Bioenergy, Advanced Manufacturing)

Resources

Workforce Program Design & Development

- [Workforce Development Program Design & Evaluation Fact Sheet](#)
DOE Better Buildings Workforce Accelerator
- [Blueprint for Workforce Development](#)
DOE State and Community Energy Programs office (SCEP)
- [Contractor Engagement & Workforce Development Handbook](#)
DOE Energy Efficiency and Renewable Energy Residential Program (EERE)
- [Strategies for Workforce Development: A Toolkit for the Solar Industry](#)
Interstate Renewable Energy Council (IREC), includes case studies