

GREEN CAREER TRANSITIONS AND PATHWAYS



Massachusetts Green Career Conference
October 1, 2010

MASSACHUSETTS ASSOCIATION FOR COMMUNITY ACTION (MASSCAP)

- × Association of 24 Community Action Agencies in Massachusetts
- × Workforce Development Committee developed Unified Career Training Matrix for Green Industries (theoretical model) - 2008
- × Conducted workforce needs assessment to identify skills required for entry level employment in energy efficiency and other green industries – 2009
- × Facilitated weatherization “bootcamp” training at CAAs – 2009/2010
- × Developed/implemented job readiness pilot project - 2010
- × Developed enhanced weatherization training model - 2010

Patricia Pelletier, Presenter

A UNIFIED CAREER TRAINING MATRIX FOR GREEN INDUSTRIES MASSACHUSETTS ASSOCIATION FOR COMMUNITY ACTION (MASSCAP)

PHASE I: Basic Training in Energy Conservation	PHASE II: Common Pre-Apprenticeship Construction Training Core	PHASE III: Specialized Training in Green Technologies	PHASE IV: College Degree Programs
<p>TRAINING CONTENT</p> <p>Energy conservation technologies (5 -10 day crew training, 10 day auditor/site supervisor training)</p> <p>40 hours of worksite career exploration + academic remediation</p> <p>50 hours work-readiness training + comprehensive case management and family support services</p>	<p>660 clock hours of hands-on and classroom training in general construction skills with an emphasis on green building techniques and technologies</p>	<p>Options for:</p> <p>Specialized Energy Conservation Training</p> <p>Specialized Solar Energy Training</p> <p>Specialized Wind Energy Training</p> <p>Or other training offered through the MA Clean Energy Center sites, post secondary institutions, training programs.</p>	<p>Course offerings at participating Community Colleges; Credit for approved prior classroom education and professional experience.</p>
<p>CREDENTIAL</p> <p>Certificate in Basic Conservation Training</p>	<p>Certificate of Pre-Apprenticeship Training</p>	<p>Nationally-recognized specialty Certificate from NABCEP, GBCI, BPI or equivalent</p>	<p>College Certificate or AA Degree</p>
<p>Target Positions</p> <p>Weatherization Crew; Worker/Installer; Crew Chief; Auditor; Inspector</p>	<p>Construction Trades Helper; Registered Apprentice.</p> <p>BUSINESS DEVELOPMENT</p> <p>40-60 additional hours of small business assistance training/ education/support to assist participants to start energy conservation crews within the participating CAA.</p>	<p>Conservation Services Contractor; Solar Energy Technician;</p> <p>HVAC Mechanic/Installer; Electrical/Electronic Equipment Mechanic, Installer, Repairer; Hazmat Technician; Electronic Fabricator</p>	<p>Environmental Science Technician; Engineering Technician; Project Manager; Property Manager; Facilities Manager</p>

WORKFORCE NEEDS ASSESSMENT



*A report from the
MASSCAP Green Career Ladder Initiative
Energy Efficiency/Weatherization
Workforce Planning Partnership*

Funded by:

The Boston Foundation, SkillWorks Energy Efficiency/Weatherization
Workforce Partnership Initiative, 2009

13 KEY INTERVIEWEES

- × Atlantic Weatherization
- × Massachusetts Department of Housing and Community Development
- × Building Diagnostics
- × National Consumer Law Center
- × Green Home Solutions
- × Peregrine Energy Group
- × Conservation Service Group
- × Quinsigammond Community College
- × JFY Networks
- × Stellaris
- × Hoisted/Portable Engineers Local 4-Apprenticeship and Training
- × Women in Building Trades
- × Boston Power, Inc.

ENTRY LEVEL JOBS PROJECTIONS

- × Green Industries are growing
- × Best opportunities are in weatherization/insulation work (currently residential, soon commercial)
- × Future opportunities as hazardous waste technician, HVAC technician, energy utility technician
- × Solar industry has potential for employment in solar panel manufacturing, geo-thermal and solar panel installation
- × Battery technology (for electric cars, etc.)
- × Administrative support (clerical, sales, customer service) in emerging green industries

SKILLS/QUALIFICATIONS FOR "GREEN" ENTRY LEVEL JOBS

- × "Soft" skills (attitude, people skills, punctuality, dependability....) 62%
- × Hands-on training (weatherization) 54%
- × Basic construction/carpentry skills (for weatherization jobs) 54%

MASSCAP JOB READINESS PILOT PROJECT

- × 120 hours classroom and independent activities in:
 - + Self Exploration
 - + Career Readiness Skills
 - + Entering the World of Work
 - + Communications & Interpersonal Skills
 - + Financial Literacy
 - + Job Search and Retention

WEATHERIZATION CAREER PATHWAY

Weatherization Installer	Weatherization Crew Chief	Weatherization Auditor	Weatherization Contractor
<p>Competencies/Skills</p> <ul style="list-style-type: none"> •Read & write legibly •Basic verbal skills •Basic construction knowledge •Basic computer skills •HS diploma/GED preferred <p>Training/experience in:</p> <ul style="list-style-type: none"> •Air sealing •Duct sealing •Insulation •Basic-load measures (Training is often done on the job) 	<p>Competencies/Skills</p> <p><u>All Installer skills plus training or experience in:</u></p> <ul style="list-style-type: none"> •Project management (specific to crew of installers) •Training (including adult learning concepts) •Diagnostic Testing •Combustion Appliance Safety •Code Requirements •Inspection & Measurements 	<p>Competencies/Skills</p> <p><u>All Crew Chief Skills (other than project management) plus training or experience in:</u></p> <ul style="list-style-type: none"> •Measure Selection •Work Space Development •May be required to have Building Performance Institute (BPI) Certification 	<p>Competencies/Skills</p> <p><u>All Auditor skills plus training or experience in:</u></p> <p>Business Management (maintain required licenses, insurance, employment practices, bidding, negotiations, etc.)</p>

UMASS-DARTMOUTH/MASSCAP WEATHERIZATION TRAINING CENTER

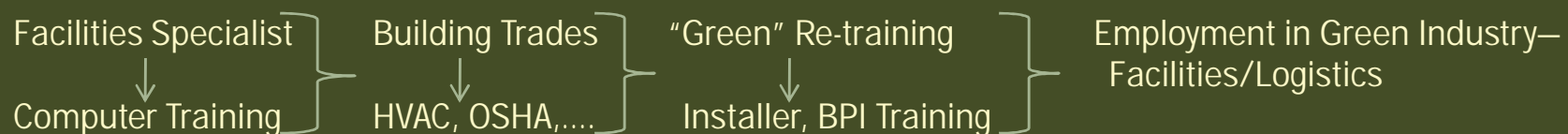
"Enhanced" Weatherization Training Model

- × 30 hours job readiness (including soft skills and green career ladders)
- × 100 hours weatherization
- × OSHA 10
- × Lead Safe Renovation
- × Basic Construction (Structure and Systems)
- × Energy Basics
- × Insulation
- × Air Sealing
- × Test Prep-- BPI Air Sealing Certification
- × 60 hours paid (at Davis-Bacon wages) field placement
- × Job coach and case management for career planning/job placement/follow up
- × Weatherization crew chief module (for trainees with abilities/interest)

CASE STUDY - RODNEY

- × Union Carpenter— unemployed since 2008 (50+ years old)
- × Prior Experience: Fourteen years carpentry--commercial, industrial, and residential building trades; Facilities Specialist experience; industrial building and machine maintenance experience; HVAC Building Controls Certificate; working knowledge of Microsoft applications; no formal post secondary education.
- × Assistance from ValleyWorks Career Center – Obtained Building Performance Institute, Inc. (BPI) Building Analyst Professional Certificate and Envelope Shell Certificate from Clean Edison.
- × Attended Insulation Installer Weatherization “Bootcamp” at ABCD-Mattapan and received certificate.
- × Employed in 2010 as Logistics/Facilities Coordinator at energy efficiency company in Boston (updated skills and integrated with transferrable skills).

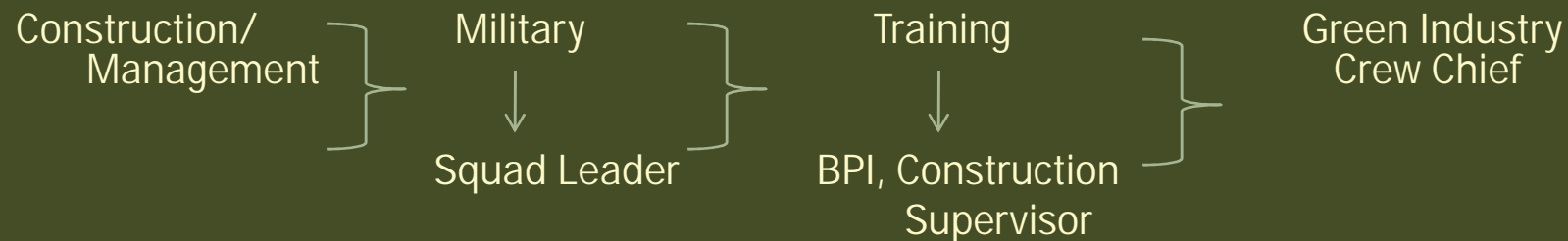
Rodney's Pathway



CASE STUDY - KEN

- × Decorated Army veteran, discharged in 2009
- × Unemployed after military discharge
- × Employment background in construction and management
- × Sought assistance from North Shore Career Center – Obtained BPI Building Analyst Certification at North Shore Community College
- × Attended “How to Start a Weatherization Business” at NSCC
- × Assistance from Northeast Veteran’s Outreach – Obtained Massachusetts Construction Supervisors License
- × Hired as Weatherization Crew Chief for Project Renew at Community Teamwork, Inc. in Lowell (updated skills and integrated transferrable skills)

Ken’s Pathway



SOLAR PHOTOVOLTAIC CAREER PATHWAY

Traditional Trades Person		Licensed Electricians		Traditional Engineers
Entry Level Trades Person ↓	Solar Photovoltaic Technician Installer	PV Installer Lead/ Supervisor		Solar Photovoltaic Engineer/ Designer ↓
Competencies/ Skills	Competencies/ Skills	Competencies/ Skills	Competencies/ Skills	Competencies/ Skills
<ul style="list-style-type: none"> •Good verbal/written communications •Basic computer skills •Attention to detail •Good physical health •Grasp of current trades •Troubleshooting on site •Safety training •Ability to read and understand specs 	<ul style="list-style-type: none"> •Licensed Electrician •Entry Level Occupational Certificate •All Entry Level Trades skills plus: •Electronic component installation/troubleshooting •Report & proposal writing 	<ul style="list-style-type: none"> •Licensed Master Electrician •Advanced Occupational Certificate •Supervisory skills 	<ul style="list-style-type: none"> •Bachelor in Engineering •Robust verbal and written communications •Excellent computer skills •Strong analytical skills •Solar panel design/operations •Insulation •Structural design •Atmospheric science •Meteorology •Aerodynamics •Fluid mechanics •Tech. analysis & verification •Field experience 	<ul style="list-style-type: none"> •Bachelor in Engineering •Masters in Engineering preferred •Excellent verbal and written communications •Strong analytical skills •Engineering experience (electrical power design) codes, building construction •Multi tasking •AutoCAD •MS applications •Attention to detail
Developed by UMass-Lowell Clean Energy Career Pathways Team, 2010				

FOR FURTHER INFORMATION

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