Labor Market Research Results

Green Jobs Growth and Training Needs in the Mid-Atlantic

Clean Energy Workforce Education Conference

Wednesday, March 9, 2011 10:30 a.m.
Saratoga Springs, New York
Agenda

✓ Overview
✓ Survey and Analysis
✓ Related Research
✓ Portal Description
Biographical Information
Rebecca Eaton

- ICF’s green workforce development projects
- Mid-Atlantic Labor Market Information green workforce survey
- NABCEP
MARC Green Consortium

- **Project:** Mid-Atlantic Regional Collaborative (MARC) Green Consortium
- **Purpose:** Conduct innovative LMI activities that support the expansion of a regional green economy
- **Funding:** $4 million competitive grant award from US Department of Labor
- **Recipient:** Maryland Department of Labor, Licensing and Regulation on behalf of fellow MARC members Virginia and the District of Columbia
- **Administrative Entity:** Maryland Workforce Corporation
Outcomes

✓ Implementation of three-state regional employer survey on current “green” jobs, job openings, education and training
✓ Building upon the regional survey findings, value added related research, including the creation of a “green” education and training catalog
✓ Establishment of a regional labor exchange and labor market information platform
✓ Broad dissemination of information about the project and its outcomes
Defining Green Jobs

Jobs that involve any amount of time spent in providing services or producing products in the following categories:

1. Renewable energy and alternative fuels
2. Energy efficiency and energy conservation
3. Greenhouse gas reduction
4. Pollution reduction and cleanup
5. Recycling and waste reduction
6. Sustainable agriculture and natural resource conservation
7. Education, compliance, public awareness and training related to green jobs
Survey Objectives

Comprehensive survey and analysis:

- Existing occupations expected to increase in demand
- Existing occupations with significant change to the work and worker requirements
- Identify new and emerging green occupations, education and training
Survey Findings

• How Green is the MARC Region: Overview of Survey Findings
• Green Jobs by Sector Category
• Green Industry Employment
• Green Occupation Employment
• Green Job Vacancies
• Green Job Hiring Plans / Projections
• Green Job Education and Training
• Green Job Credentials
Survey Timeline and Status

- Approximately 327,000 establishments in the sampling universe
  - Utilized QCEW databases
  - Surveyed 35,000 establishments
  - Mail and on-line options
  - Dedicated toll-free phone and email support throughout survey period

**JUNE 2010**
Surveys mailed
Initial survey collection

**OCTOBER 2010**
Conclude survey collection
Compile survey responses
Prepare preliminary analysis
Disseminate initial findings

**MARCH 2011**
Finalize and distribute report
www.MARCGreenWorks.com
Overview of Survey Findings

How Green is the MARC Region?

- Survey Population: Approximately 10,000 respondents in DC, MD, and VA – MARC Region
- Roughly 8-9% of regional employers have green jobs
  - Approximately 29,000 ‘green’ establishments throughout the MARC region
- Roughly 3-5% of the workforce is ‘green’*
  - Approximately 235,600 green jobs in the MARC region

*Note distinction between establishment-level and workforce or employee-based data throughout the presentation
Overview of Survey Findings

Green Jobs in the MARC Region

Current Green Employment
- 1,182
- 11,677
- 111,630

Open Green Positions
- 351
- 4,626
- 111,630

Expected Green Hiring
- 13,686
- 12,926
- 111,630

States:
- VA
- MD
- DC
Green Industry Employment by Jurisdiction

• Roughly 87% of the green employment in the region is full-time labor; approximately 13% of regional green jobs are part-time
• Trend holds true for each jurisdiction
• Maryland has roughly 111,600 green jobs  
  = Approximately 4.8% of the state’s workforce
• Virginia has roughly 112,300 green jobs  
  = Approximately 3.4% of state’s workforce
• DC has roughly 11,700 green jobs  
  = Approximately 2% of the city’s workforce
Green jobs found in more than 300 industries in the Region

Over 50% of green jobs concentrated in the top 5 industries -- related to construction, technical services, and education/policy

Many industries and individual employers have jobs across the seven green categories

30% of all MARC Region green jobs are in Construction, 21% Professional, scientific and technical services, and 16% Other services (includes political, social, and civic organizations)

Hiring projections indicate that green activities in Construction, Professional, scientific, and technical services and Support and waste management services can expect to grow
## Green Jobs by Industry

### NAICS Title

<table>
<thead>
<tr>
<th>NAICS Title</th>
<th>Renewable</th>
<th>Energy efficiency</th>
<th>GHG Reduction</th>
<th>Pollution reduction</th>
<th>Recycling and waste reduction</th>
<th>Sustainable ag.</th>
<th>Education, compliance, awareness and training</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialty trade contractors</td>
<td>2%</td>
<td>68%</td>
<td>3%</td>
<td>8%</td>
<td>16%</td>
<td>2%</td>
<td>1%</td>
<td>48,629</td>
</tr>
<tr>
<td>Professional, scientific, and technical services</td>
<td>6%</td>
<td>29%</td>
<td>4%</td>
<td>14%</td>
<td>14%</td>
<td>17%</td>
<td>16%</td>
<td>35,280</td>
</tr>
<tr>
<td>Administrative and support services</td>
<td>9%</td>
<td>4%</td>
<td>1%</td>
<td>32%</td>
<td>14%</td>
<td>38%</td>
<td>2%</td>
<td>18,476</td>
</tr>
<tr>
<td>Educational services</td>
<td>2%</td>
<td>5%</td>
<td>1%</td>
<td>2%</td>
<td>4%</td>
<td>7%</td>
<td>79%</td>
<td>15,117</td>
</tr>
<tr>
<td>Construction of buildings</td>
<td>11%</td>
<td>63%</td>
<td>1%</td>
<td>7%</td>
<td>12%</td>
<td>1%</td>
<td>5%</td>
<td>10,479</td>
</tr>
<tr>
<td>Repair and maintenance</td>
<td>5%</td>
<td>20%</td>
<td>4%</td>
<td>20%</td>
<td>46%</td>
<td>1%</td>
<td>3%</td>
<td>8,035</td>
</tr>
<tr>
<td>Merchant wholesalers, durable goods</td>
<td>3%</td>
<td>25%</td>
<td>2%</td>
<td>5%</td>
<td>64%</td>
<td>0%</td>
<td>0%</td>
<td>7,938</td>
</tr>
<tr>
<td>Religious, grant making, civic, professional, and similar organizations</td>
<td>2%</td>
<td>14%</td>
<td>2%</td>
<td>4%</td>
<td>26%</td>
<td>8%</td>
<td>44%</td>
<td>7,550</td>
</tr>
<tr>
<td>Plastics and rubber products manufacturing</td>
<td>1%</td>
<td>74%</td>
<td>0%</td>
<td>4%</td>
<td>14%</td>
<td>0%</td>
<td>6%</td>
<td>5,381</td>
</tr>
<tr>
<td>Waste management and remediation services</td>
<td>0%</td>
<td>3%</td>
<td>2%</td>
<td>37%</td>
<td>57%</td>
<td>0%</td>
<td>1%</td>
<td>5,370</td>
</tr>
</tbody>
</table>
Green Jobs by Core Area

- Energy Efficiency and Energy Conservation has the most green jobs
- GHG Reduction and Renewable Energy Generation have the least
- Pattern is generally consistent with studies from several other states
DC - Top Green Industries and Occupations

- DC’s green jobs are the most concentrated in specific occupations
- Management and Cleaners of vehicles and equipment account for 20% of green jobs

DC Occupations with the Most Green Jobs

<table>
<thead>
<tr>
<th>Management Occupations</th>
<th>Cleaners of Vehicles and Equipment</th>
<th>Architectural Drafters</th>
<th>Public Relations Specialists</th>
</tr>
</thead>
</table>

DC Industries with the Most Green Jobs

<table>
<thead>
<tr>
<th>NAICS Title</th>
<th>Green Jobs</th>
<th>Percent of Industry That Is Green</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional, scientific, and technical services</td>
<td>3,256</td>
<td>3%</td>
</tr>
<tr>
<td>Religious, grant making, civic, professional, and similar organizations</td>
<td>2,906</td>
<td>6%</td>
</tr>
<tr>
<td>Ambulatory health care services</td>
<td>2,350</td>
<td>17%</td>
</tr>
<tr>
<td>Educational services</td>
<td>556</td>
<td>1%</td>
</tr>
<tr>
<td>Paper manufacturing</td>
<td>548</td>
<td>1%</td>
</tr>
</tbody>
</table>
Maryland
Top Green Industries and Occupations

- 18% of MD’s green jobs are in Installation, maintenance, and repair & Heating, air conditioning mechanics and installers

### MD Industries with the Most Green Jobs

<table>
<thead>
<tr>
<th>NAICS Title</th>
<th>Green Jobs</th>
<th>Percent of Industry That Is Green</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialty trade contractors</td>
<td>31,123</td>
<td>30%</td>
</tr>
<tr>
<td>Professional, scientific, and technical services</td>
<td>14,761</td>
<td>6%</td>
</tr>
<tr>
<td>Administrative and support services</td>
<td>11,967</td>
<td>9%</td>
</tr>
<tr>
<td>Repair and maintenance</td>
<td>4,172</td>
<td>18%</td>
</tr>
<tr>
<td>Waste management and remediation services</td>
<td>3,663</td>
<td>44%</td>
</tr>
</tbody>
</table>

### MD Occupations with the Most Green Jobs

- Installation, Maintenance, and Repair Occupations
- Heating and Air Conditioning Mechanics and Installers
- Management Occupations
- Highway Maintenance Workers
- Landscaping and Groundskeeping Workers
Virginia
Top Green Industries and Occupations

- VA green jobs are least concentrated in specific occupation groups
- 15% green jobs are in Education, training, and library & Installation, maintenance, and repair
Challenges in Recruiting and Retaining Green Workers

- Finding green workers with experience is hardest in MD, then VA; easiest in DC
- In all three, it is harder to find experienced green workers than entry-level workers
- Employee retention challenge is about the same across jurisdictions

Green establishments citing “very or somewhat difficult” to recruit or retain green workers

<table>
<thead>
<tr>
<th></th>
<th>DC</th>
<th>MD</th>
<th>VA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry-level Recruitment</td>
<td>34%</td>
<td>48%</td>
<td>53%</td>
</tr>
<tr>
<td>Experienced Recruitment</td>
<td>51%</td>
<td>56%</td>
<td>68%</td>
</tr>
<tr>
<td>Retention</td>
<td>47%</td>
<td>47%</td>
<td>46%</td>
</tr>
</tbody>
</table>
Across all jurisdictions roughly 75% of green employers offer on-the-job training.

DC-based green employers are more likely than in other jurisdictions to only hire workers who are already trained and engage in “other” training.

MD-based green employers are more likely than in other jurisdictions to offer in-house classroom training and trade apprenticeship programs.

VA-based green employers are more likely than in other jurisdictions to offer online training.

### Training offered for Green Workers

- **On-the-job training**
- **In-house classroom**
- **Online training**
- **Only hire workers who are already trained**
- **Trade apprenticeship programs**
- **Community college courses**
- **Other**

**Legend:**
- DC
- MD
- VA
Employer Support for Green Training

Percent of establishments willing to provide financial support for green worker training

- Specialized off-site workshops
- Occupation-specified "green" certificate programs
- 2-year community college Associate's Degree program for entry-level technicians
- 2-year community college Associate's Degree program for entry-level designers

DC
MD
VA
Green Credentials

- Across all credentials, D.C.-based green employers place greater emphasis on the importance of credentials in hiring green workers.
- Other than for LEED certification, MD-based green employers place greater emphasis on the importance of credentials compared to Virginia.
- Across all credentials, D.C.-based green employers were more familiar with the credentials.

### Importance of Credentials in Hiring Decisions

<table>
<thead>
<tr>
<th>Credential</th>
<th>DC</th>
<th>MD</th>
<th>VA</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEED (Leadership in Energy and Environmental Design)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustainability Training</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Build It Green Certification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NATE (North American Technician Excellence)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BPI (Building Performance Institute)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NABCEP™ (North American Board of Certified Energy Practitioners)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIUNA (Laborers’ International Union of North America)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Preliminary Survey Summary

- Energy efficiency and recycling lead the way
- Recruitment challenges for entry level and skilled green employees
- On-the-job training is dominant
- Many employers prefer hiring skilled green employees
- Credentialed applicants have a strong advantage

Source:
Full report in March 2011 at www.MARCGreenWorks.com
Related Research Objectives

- Evaluate existing green employment, industries, and educational infrastructure; develop and post on-line catalogue of green education and training providers
- Describe labor supply and demand; conduct workforce gap analysis
- Identify skill and competency requirements in region’s green labor market
- Provide projected growth for green jobs, training, education, and wages
- Integrate data collection for development of online expansion
- Conduct outreach on findings
New Regional Labor Exchange Portal

- Job seekers can search and apply for jobs
- Job seekers can get up-to-date career path information on Green Jobs and training
- Employers can search for qualified candidates
New Regional Labor Exchange Portal

Useful Outputs of the Portal:

1. Real Time Green Labor Supply
2. Real-Time Green Labor Demand
3. Catalogue of Mid-Atlantic Green Training Programs

www.MarcGreenWorks.com
Regional In-Context, Real Time LMI

The table below shows the counties in Virginia Statewide with the lowest number of potential candidates in the workforce system for each job opening advertised online for Registered Nurses on June 1, 2010. There are 37 candidates who stated they would work anywhere in the state.

<table>
<thead>
<tr>
<th>Area Name</th>
<th>Potential Candidates looking for work as Registered Nurses</th>
<th>Job Openings for Registered Nurses</th>
<th>Potential Candidates per Job Opening for Registered Nurses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairfax County</td>
<td>145</td>
<td>569</td>
<td>0.26</td>
</tr>
<tr>
<td>Fredericksburg city</td>
<td>108</td>
<td>276</td>
<td>0.39</td>
</tr>
<tr>
<td>Charlottesville city</td>
<td>113</td>
<td>164</td>
<td>0.26</td>
</tr>
<tr>
<td>Galax city</td>
<td>104</td>
<td>253</td>
<td>0.42</td>
</tr>
<tr>
<td>Richmond city</td>
<td>176</td>
<td>281</td>
<td>0.62</td>
</tr>
<tr>
<td>Danville city</td>
<td>110</td>
<td>165</td>
<td>0.59</td>
</tr>
<tr>
<td>Roanoke city</td>
<td>108</td>
<td>81</td>
<td>0.12</td>
</tr>
<tr>
<td>Frederick County</td>
<td>113</td>
<td>94</td>
<td>0.24</td>
</tr>
<tr>
<td>Lynchburg city</td>
<td>113</td>
<td>84</td>
<td>0.24</td>
</tr>
<tr>
<td>Norfolk city</td>
<td>175</td>
<td>215</td>
<td>0.49</td>
</tr>
</tbody>
</table>

Candidate Data Source: Individuals with active resumes in the workforce system